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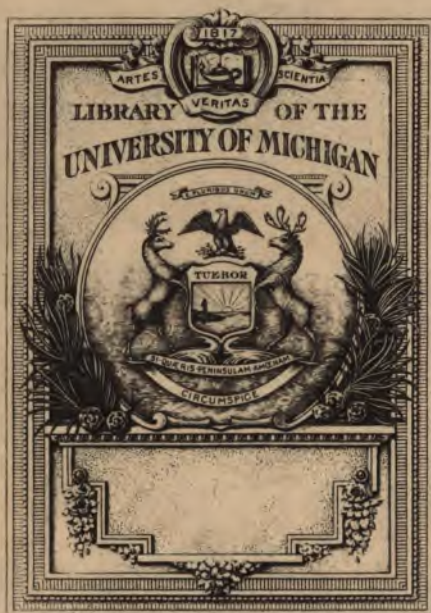
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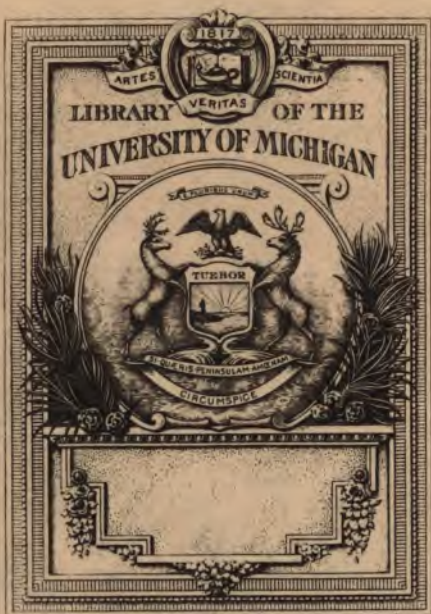
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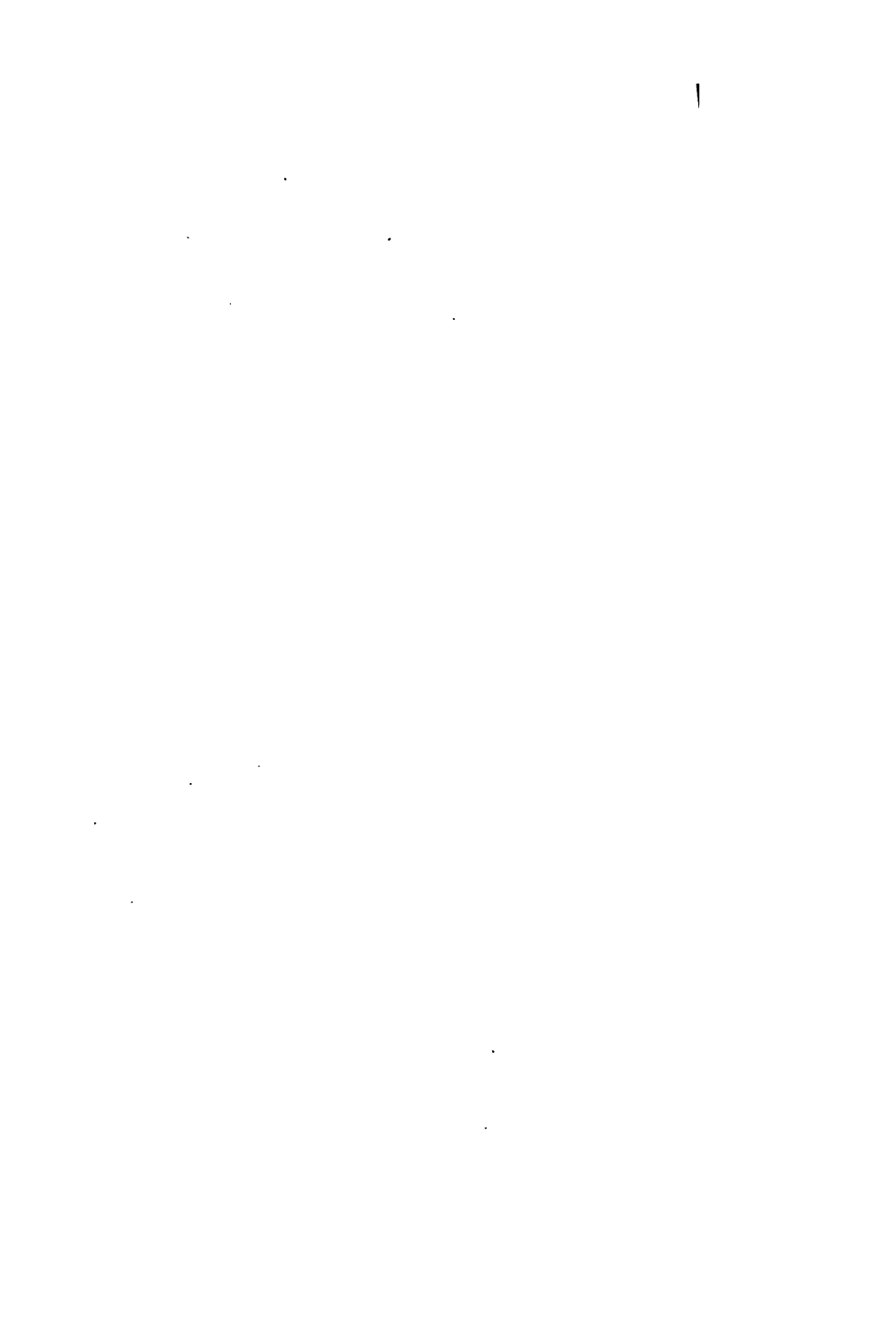
SELECTED ARTICLES
ON
THE ENLARGEMENT
OF THE UNITED STATES NAVY

COMPILED BY
CLARA E. FANNING

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PREFACE

These reprints deal with material on both sides of the following question: "Resolved, that the policy of substantially enlarging the American navy is preferable to the policy of maintaining it at its present strength and efficiency." While the compiling has been done with the view of especially aiding the High School Debating League, the reprints will be found helpful to all students taking part in debates on the subject, also to clubs and individuals making a study of the question. Librarians will find the book most helpful since it furnishes as much information on the subject as will ordinarily be called for, and makes available a large amount of material that comparatively few libraries will have.



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Selected Articles on Enlargement of United States Navy

Annals of the American Academy. 26: 123-36. July, 1905.

The important elements in Naval Conflicts. Rear-Admiral
George W. Melville.

The basic principles of strategy have been the same since armies first clashed in the field and fleets first manoeuvred on the sea. The application of those principles has changed with the development of the mechanism of war; but, in essence, successful strategy, is still as in the beginning, founded upon the acme of common sense, of careful observation, of ripe judgment, and of quickness of action in the use of various appliances of war. The student of this science may learn much from its practice in the past, and in our war colleges he ought to acquire special information that will be of inestimable service in the solution of the ordinary problems of attack and defense which may confront this nation in the future. History, however, does not lack instances to show that the genius of a commander is often of greater weight in achieving results than the abstract knowledge of the science of war. The victories of Joan of Arc, of Lord Clive, and of Washington may be cited as to this. When the latter assumed command of our troops in the infancy of the republic, his war experience was limited to a comparatively brief Indian service. The application of the principles of strategy underwent a change with the commercial development of the steam engine, for almost coincidently with the invention of the locomotive and the screw propeller, there came increased facilities for rapidly transporting men and material. As ex-

pressed by one of the greatest of the world's strategists, Von Moltke, the marked advance in the conduct of modern war over mediaeval methods lies in the ability of the commander of our day to move large bodies of troops and supplies in a more expeditious and efficient manner.

The Marching of Mediaeval and Modern Armies.

Probably no more impressive way of illustrating the difference in moving mediaeval and modern armies could be shown, than by comparing the marching of the Tartars who invaded Eastern Europe at intervals with the present campaign of the Japanese in Manchuria.

The great hordes which started from the border lands of Mongolia and Manchuria, were a long time in assembling but were always self-supporting, ever increasing in numbers, and continually looking ahead for future sources of supplies. Oyama's army, on the other hand, was more rapidly assembled, owing to existing methods of transportation; but ever since his forces landed, and although immense quantities of stores have been captured, we find the resources of Japan taxed to keep his soldiers on the march. The opposing armies have been compelled to keep in close touch with railroad communication, otherwise, inevitable starvation might have awaited the force that attempted to cooperate independently of a railroad base.

The Cost of Modern Armies and Navies.

Probably one of the most striking ways of showing the cost of maintaining modern military establishments is to analyze our expenditure for the support of the army as compared with the outlay for other purposes. The average cost throughout the country of educating each pupil in the public

schools will approximate about fifty dollars, while the direct and indirect expense annually resulting from the enlistment of a soldier will exceed one thousand dollars. The cost of equipping, housing and transporting the modern soldier, combined with various subsidiary expenses, causes his pay to be but a fraction of the outlay required for his support. The annual expenditure, including the cost of fortification, incurred by the War Department during the past eight years, has averaged over one hundred and twenty-five million dollars. When the fortifications now planned are finished, the additional expense of manning them will bring the annual war expenditure to an amount exceeding one hundred million dollars. The forts that are building will have to be manned, for there are but few appliances which, if neglected, will become impaired more quickly than a modern weapon of war.

If anything, the navy is a more expensive institution than the army. Dividing the total naval expenditure by the number of men in the organization, we find that it is now costing the government about two thousand dollars annually per sailor employed. The navy is insatiable in its call for supplies, and the demand for repairs and new construction never ceases. The cost of maintaining naval establishments has increased to such an extent, that, at the present time, all but six nations have ceased struggling for even a place in the race for supremacy. Our annual expenditure for the past eight years has averaged seventy-three million dollars, and our Naval Board of Construction has officially reported, that, from henceforth, the cost of maintenance alone will be about seventy-six million dollars. Including all warships authorized the cost of our fighting fleet will approximate three hundred and twenty million dollars. It will require an expenditure of sixteen million dollars to overcome depreciation, and that this estimate of 5 per cent for depreciation is an exceedingly conservative one, is shown by the fact that the British admiralty now regard over one hundred warships of various kinds, some of them only a dozen years old, and completed at a cost of over one hundred and twenty five million dollars, as practically

unserviceable, from a military standpoint, for modern naval requirements. It will thus be seen that when the warships now authorized are in commission, an annual naval expenditure of one hundred million dollars will be required to overcome unavoidable depreciation, and so as to secure a net increase of strength equivalent to the fighting value of a single battleship.

War is now a Business, Whose Success Depends, in a Great Part, Upon the Efficiency and Development of Mechanical Forces.

Naval war is now a business as much as a science. Bullion and brain count as well as bullets and brawn. The spade serves with the sword. The soldier as well as the sailor is most efficient when he possesses a better knowledge of mechanical appliances than of perfunctory drills. The extraordinary cost of carrying on modern military operations at present points to the fact that business methods should be fully recognized in the organization and conduct of the military-naval departments.

One of the basic elements in naval policy should be a recognition of the fact that there are but three nations either wealthy enough or possessing sufficient naval strength to retain colonial possessions that are thousands of miles distant from the home land, unless the colonists or inhabitants themselves are able and willing to help the mother country in time of war.

Until the past few years Great Britain attempted to maintain on every naval station a stronger fleet than could be maintained by any possible rival in the same waters. In pursuance of this policy, her naval expenditures progressively increased until they reached, last year, the sum of one hundred and eighty-five million dollars. That empire has now called a halt in naval expenditures, for the admiralty estimates for the coming year show a reduction of about fifteen million dollars compared with the previous year.

The Modern Warship. Cannot Operate Far From a Great Repair Base.

The battleship which can draw upon the resources of a completely equipped manufacturing and military base, is at enormous advantage as compared with a similar vessel that attempts to be, in great part, self-supporting. When the United States declared war against Spain, the naval strength of the two powers was about the same, so far as graphic charts and official statistics could show. When the fleets met at Santiago, less than three months afterwards, the squadron of Spain had become so weakened, owing to its vessels being unable to secure a sufficiency of coal, ammunition and supplies, that some foreign experts assert that the relative strength of the two fleets was about six to one in our favor.

The showing that can be made by data as to ships and guns, as a measure of relative strength, is more apparent than real. It is not necessary to doubt that the vessels of all nations are of the tonnage that they are claimed to be, nor need it be denied that practically all vessels lately constructed possess the highest class of armor and armament. All ships, however, are not maintained in equally good condition. The stress of war will soon impair the condition of these vessels unless there is an ample reserve of men, money and supplies of various kinds to maintain them in a state of efficiency. The average modern battleship has only to take part in a few months manoeuvres to necessitate her seeking a naval base for overhauling.

In brief, the individual battleship is the most powerful weapon for home defense, but unless maintained continually at high efficiency, is unreliable for distant military operations. The Russians have found this out, to their sorrow, for while Port Arthur was a great military fortress, it possessed an insignificant, as well as inefficient equipment of machine tools, for making necessary and rapid repairs to the machinery, hull and armament of vessels in service.

The Tendency of the Nation to Inquire More Rigidly as to Naval Administration.

For over a generation, the navy has had an exceedingly strong hold upon the affection and love of our people, but a cursory reading of the debate in the Congress upon the naval appropriation bill for the year 1905-6 ought to show that the pendulum of sentiment is now commencing to move in the other direction. The trend of this sentiment is probably best reflected in the remarks of one of the ablest men in public life—a man, who by birth and environment ought to be a friend of the navy. Yet, this student of naval affairs, in a very thoughtful analysis of the effect of naval increase used as a text for calling a halt in excessive naval expenditures the following quotation: “For which of you intending to build a tower sitteth not down first, and counteth the cost whether he have sufficient to finish it?” The navy should heed this warning, that hereafter the estimates for naval increase will be critically analyzed. It can also take unto itself the responsibility for this change of heart upon the part of a large body of thinking men as to whether the nation's best interest is promoted by rapidly forging ahead in relative naval strength. There should, likewise, be an end to the effort to attach any mystery to the purpose of a modern fleet, and there should be fewer hysterical statements as to the weakness of our naval organization as compared with the strength of other individual powers.

The Navy Must be Primarily the Arm of National Defense.

The public as well as the Congress, now recognize the fact that the defense of the United States, must primarily

entrusted to the navy. Unless a possible foe had some hope of securing command of the sea against the strongest opposing fleet that we could assemble, no nation would undertake the task of fitting out a possible armada to attempt either the blockade or the invasion of our coast.

The war with Spain manifested rather than developed our ability to defend our coast against the strongest of naval powers. Now the exultation is giving way to thoughtful reflection, it becomes apparent that, strong as we are for defensive purposes, we are weaker than we realize for conducting distant military-naval operations. This weakness is due to the fact that every navy requires an auxiliary merchant marine of several times its tonnage to keep the fighting ships either ready for battle or for the maintenance of an efficient blockade.

Our Industrial Wealth and Resources Have Brought Upon us Responsibilities.

From henceforth, we cannot evade the responsibility that attends our position as a great industrial nation seeking a fair portion of the trade of the world. As we have taken it unto ourselves to assert doctrines that affect others, there will come occasion when our military-naval strength may be the only factor that will cause other nations to accept our interpretation of policies that concern them as well as ourselves.

Our influence as a world power resulted from our industrial, agricultural and mineral wealth, and not by reason of military development. Our possibilities were recognized abroad from the time we took the lead in the manufacture of steel and perfected transportation facilities to a degree that made it possible for us to handle and carry a ton of material by rail in a more expeditious, safer and cheaper

manner than could be done by any industrial competitor. We had only to break away from our economic isolation to make the world realize that our industrial and political influence was not to be limited to the bounds of our own territory.

Foreign Estimate of Our Naval Strength.

It was my privilege, about a year ago, while spending several months in Europe in studying the trend of naval engineering development, to confer, upon the question of sea power, with some of the ablest administrative officials of Great Britain and the continent. In reviewing the events and results of the Spanish-American War, these experts were in accord in stating that what impressed them most, as regards the military power of America, was the amazing wealth of agricultural, mineral, manufacturing, transportation and financial resources that were at the command of this country for conducting a defensive war against even a combination of Continental powers. It was evident, also, that these administrative officials were sincere in the belief that the United States, by the acquisition of distant tropical colonial possessions, had put it within the power of future foes to change the field of possible naval conflicts to localities less advantageous to the United States than are the Atlantic Coast and the Caribbean sea.

Our Voluntary Assumption of Responsibilities Beyond Our National Boundaries is, From a Naval View-Point, a Serious Weakness.

By force of events, and it is hoped for the benefit of civilization, we have acquired tropical colonial possessions.

History shows, however, that, except in isolated cases, the Anglo-Saxon has never succeeded in successfully establishing large colonies near the line of the equator. The possession of such territory, therefore, except for the purpose of using these colonial ports as a base of operations either in defense of our own shores, or for the protection of our commercial rights, constitutes a weakness that should cause us to weigh well every important element of naval conflict.

From the administration of President Monroe onward, the responsibilities of the United States have extended beyond our own borders and the duties thus assumed have been increased, in later years, by the acquisition of island territory and of the canal-zone at Panama. Without regard to other considerations affecting these factors of our colonial and foreign policies, it may be said, from a naval view-point, that, so long as the present status continues, there will be a progressive increase in our military and naval expenditures and constant need of preparedness for naval war.

The Philippines a Naval Burden.

Invasion can only be prevented by resistance on the sea. In the event of war, therefore, with a strong naval power, our trans-Pacific possessions in the Philippine archipelago must either be guarded by a fleet strong enough to cope with any force the enemy may send against it, as well as to hold the command of the sea, or the islands must be left to their own resources and open to attack. While our neighbors in Asia are now at peace with us and may remain so for generations to come, it is still worth while to consider the possible changes that the years might bring.

It may be pertinent to call to mind that when France seized Formosa in 1885, the European press of China and Japan made studied effort to show how closely connected

were Japan, Formosa and the Philippines, and that it was but the destiny of events that this chain of islands should some day be under a single controlling power. In fact, this thought was even pleasing to many Americans living in the Far East. It needed no suggestion, however, from the European to cause any Japanese to look towards Formosa and to the isles beyond for natural territorial expansion. Japanese romance, tradition and history furnish all the inspiration necessary to convince her people that in the fullness of time the flag of the rising sun would float over the Kurile chain as well as the Philippine group. The ambition of China, likewise, may concern itself with this remarkable chain of islands, and it should not excite surprise that there is a sincere belief existing in some parts of the Orient that our acquisition of these possessions is incompatible with the vested, if not the acknowledged, inheritance of the Asiatic.

Just as soon as China recognizes the fact, as Japan has done, that the business of modern war, simply requires her to subordinate the classic and philosophic teachings of Confucius and Mencius to a thorough knowledge and application of modern sciences, the world may find that there is, perhaps, a stronger power in Asia than even Dai Nippon. The Chinese are patient, faithful, quick to learn, ready to follow a brave leader, and fearless in death. As one contemplates the industrial and military possibilities of these people, it is not a visionary prophecy which foretells that the Tartar, either on his own account or under the tutelage of Japan, may become a military power of such formidable strength as to be capable of asserting her right to enact such reciprocal exclusion laws, against countries which have excluded her citizens, as her people may consider essential to the maintenance of domestic peace and to the development of her manufacturing growth. It may also be possible, that when Japan realizes that what she has secured by conquest from Russia, can only be held from China by the maintenance of a great standing army in Manchuria, she may turn her eyes southward and behold in the Philippines that which we may then be only too glad to

dispose of—a territorial goal which her people may regard as logically within the sphere of her commercial influence.

The Inter-Oceanic Canal.

Another of the problems which is of most serious concern in our naval policy is that resulting from the building of the Isthmian Canal. While this water-way is, in a purely naval sense, of the highest value to the United States in practically consolidating our Atlantic and Pacific fleets, it also imposes a heavy burden in its maintenance and defense.

The latest estimate as to the cost of an isthmian sea-canal is about two hundred and thirty million dollars. In connection with the question of cost of such a water-way, it may be well to remember that Trautwine, about fifty years ago, estimated the cost as about sixteen million dollars, or about 7 per cent. of the latest estimate. As the tendency of ship construction is to build longer, broader and deeper draft vessels, the necessity for providing a canal of sufficient depth for such vessels may ultimately cause the enlargement of the scope of the project, and as a result the possible cost of the completed undertaking is likely to be much in excess of the amount now estimated. The natural features of the country environing the canal are of such a character that in order to prevent the impairment or destruction of this great water-way, most of the length of the canal will have to be defended constantly. It is a conservative estimate that there will be required an additional one-hundred million dollars for the building of forts and harbors of refuge for the government of the canal-zone in the employment of naval auxiliaries, and for the maintenance of the military force essential to the protection of the canal from those whose malice or interest would prompt them to wreck it. The Suez Canal is partly protected from willful destruction, by the desert in its vicinity, while the Panama water-way passes

through the Andes, and thus the character of the country is of such nature that it would be possible for a comparatively small body of daring men, working under the direction of an engineering expert, to undo in a single night the building operation of months. It should be remembered that the Pacific end of the canal will have to be defended as well as the Atlantic entrance, and that a possible enemy might operate from bases south of Panama. The defense of the water-way is, therefore, a problem of moment.

Our Relation to Minor American Republics.

One element of our foreign policy which seems likely to be a serious naval burden and also a possible factor of moment in naval war, is our relation to the minor states of the American continent. The financial and political history of some of the American republics for the last twenty years has been deplorable, and it is surprising that there has not been intervention ere this in the affairs of such of these countries as are more or less in a chronic state of revolution, and in which financial repudiation is not regarded as synonymous with commercial dishonor. The more we are forced to concern ourselves with their administration, the greater the naval and financial burden we shall have to bear. The condition of affairs in some of these republics is so reprehensible that it should be a matter of international action to apply drastic measures to secure permanent reform for so long as any one power attempts to regulate either their political or financial matters, the purposes and motives of the intervening party are certain to be impugned. However unselfish or disinterested may be our motive in trying to aid these small republics, the greater, at times, seems their suspicion and distrust of our action. We shall certainly have need of a strong navy if we are forced to concern ourselves with the

finances of these républics, for finance is at the base of the internal mal-administration of some of these republics.

The Magnitude of Our Responsibilities Beyond Our Own Borders.

The civilization of the Philippines, the building of the Isthmian Canal, and the straightening out of the financial affairs of small republics whose fiscal transactions have been questionable and intolerable, will each be found a financial burden that will prove a great tax upon our resources, and a political problem that will require the highest diplomatic talent. The concurrent treatment of these three questions may yet cause us great concern, and it is thus, imperative that we should give immediate consideration to those elements of naval conflict which are particularly applicable to this situation.

The efficiency of a modern navy is only dependent in part upon the number and character of its fighting ships. Eighteen months ago the navy of Russia was regarded as next to England and France in relative strength, as measured from the standpoint of fighting vessels. The weakness of both the military and naval establishments of Russia has been due to the fact that the problems of supply and maintenance to both army and fleet have been regarded as of minor importance when compared with the question of technical organization.

The Important Elements of Naval Strength Applicable to Our Present Condition.

The lessons of the Russo-Japanese War are plain and simple and should be taken to heart by our people. It is the concomitant features of both military and naval organi-

zations that have been neglected by the Russians. For the next few years, therefore, it might well be in the special direction of developing the auxiliaries to a fleet and not to augmenting greatly the number of fighting ships to which we should direct our best energies. It would be a conservative policy which would provide for a progressive increase in actual fighting strength equivalent to the net gain of at least one battleship per year. The bulk of the expenditures, outside of providing for depreciation and maintenance, might well, however, be applied as follows:

1. Improvement of the channels leading to all shipbuilding plants, naval stations and maritime cities. These channels should be straightened, broadened and deepened for military as well as for commercial reasons. All impeding bars near the entrance should be removed, and the channels should likewise be so well buoyed and lighted that it would be possible at all hours and at all stages of the tide for the largest of merchant vessels and the most formidable of battleships to enter or leave port without danger of striking bottom or imperiling coast-wise and harbor navigation.

2. The building of a fleet of large, fast colliers, so that in time of war the greater part of the coal required for distant naval operations would be available for shipment to the place most needed. But little reliance should be placed upon fixed coaling stations, since in time of war most of these stations might prove as much a menace as an aid to a naval fleet. By keeping the coal afloat there would always be fuel available for immediate transportation.

3. The rehabilitation of all the navy yards to a condition whereby, in case of necessity, it would be possible to build any type of warship at any one of the first-class stations. While it is by no means particularly advisable that such construction should be undertaken by the government, the leading naval repair station should be kept in readiness for doing any kind of emergency work.

4. The enactment of a statute providing that those graduates of technological institutions, who have successfully undertaken a course of instruction satisfactory to the Navy Department and who have passed a required physical examination, shall be appointed as acting midshipmen. Such graduates after two years' service at sea in naval vessels shall have the opportunity of competing with graduates of the Naval Academy for commission in the naval service.

5. The establishment of a naval reserve, and the appropriation of an amount sufficient to send all members of such organization to sea in naval vessels for at least one month every year, and who while performing this service, to receive the same pay and emolument as officers and men of corresponding rank and grade in the navy.

6. The restoration of our merchant marine. It would be easier to write several thousand words in advocacy of subsidizing our merchant marine than to attempt to show in a brief paragraph the necessity of extending such help. I have no hesitation in asserting, that in view of our existing relative naval strength, it would subserve military, commercial and national interests to stop building battleships for a time, and devote all or a portion of the money thus saved to placing upon the ocean a merchant marine that would help us to secure a greater portion of the trade of the world, and which, in case of war, would prove a military auxiliary only one step less removed in importance than the warship itself.

7. The recognition of the fact that the modern navy is an engineering one, and that the training of both officers and men should be more technical in character. The time spent by apprentices and landsmen on sailing vessels is practically wasted.

8. The purchase, if possible, and as soon as practicable, from Denmark, France and England, of all their West India possessions, so that none of the fortresses on these islands could be maintained for use against either the Isthmian Canal

or used as a base for operating against the South Atlantic and Gulf coasts. The regulation of the fiscal arrangements of some of the American republics would be exceedingly simplified if no European power held any possessions of the Western Continent, for so long as a single island in the Caribbean Sea is under the dominion of a foreign power, so long may that power consider that it possesses at least a moral and political equity in concerning itself as to the administration of neighboring islands that are in a chronic state of financial embarrassment and political revolution.

9. With the possession or the dismantling of every West India fortress which might be a menace if in the hands of an enemy, we now have either in commission or in course of construction, a navy strong enough to meet any power in the world either on the North Atlantic coast or in the Caribbean sea. For military operations in Asia or even in certain portions of South America, vast expenditures would have to be incurred before we should be willing to stake our prestige and commercial development in accepting battle in waters so far distant from the home land.

Annals of the American Academy. 26: 163-9. July, 1905.

Needs of the Navy. Captain William H. Beehler.

Captain Mahan has demonstrated the influence of sea power, upon history, and recent events have confirmed his arguments, showing that a thoroughly well-trained naval force is the most important factor in the efficiency of modern warfare.

Surely it is evident that should Russia even now gain command of the sea by destroying the Japanese fleet, Russia

would recover all she has lost in the present war. In our last war Spain was conquered by the naval victories of Dewey and the destruction of Cervera's fleet off Santiago. All other operations were secondary and had no effect upon the result of the war.

In these wars, wherein naval supremacy played such an important role a brief comparison of the strength of the belligerent navies will throw light upon the question as to what factors contributed to the superior efficiency of the victors. As regards numbers, the Spanish navy was nearly equal to that of the United States in fighting ships; while the Russian navy in this respect was vastly superior to that of Japan except at the point of contact in the Far East, where the naval forces in actual numbers of ships were about equal at the outbreak of the war. But in these battles the victors were overwhelmingly victorious, much more so than would have been believed to be possible. This superiority was entirely due to the greater ability of the victors in handling their ships and guns. The training and drill in the victorious navies before war was much greater than had been the case with their enemies. My own experience on the United States steamship *Montgomery* illustrates this. In 1896 the drill books required that the *Montgomery* should fire five-inch guns three times a minute. By diligent drills we increased the rate of fire to five times a minute in the first year and then subsequently to seven times a minute. Finally, at the bombardment of Fort Canuelo at San Juan, Porto Rico, the *Montgomery* fired 314 shells from six five-inch guns in exactly five minutes, or 300 seconds of time, or at the rate of 10.4 shots per gun per minute.

This rapidity of fire in modern warfare was one of the controlling factors in the naval battles of the Spanish war, and as far as we know it has been likewise so in the war between Japan and Russia. This has been due entirely to diligent drill, and too much stress cannot be laid upon the importance of this drill with modern weapons.

But in order to have this drill it is obviously necessary first to have the weapons, and the modern battleship is the most formidable weapon ever built, but it can only be used efficiently by those who have been thoroughly trained. The battleships must be built, armed, equipped and drilled in time of peace, before war, because it will be almost impossible to obtain efficient battleships after war shall have been declared, and useless to begin then to train the personnel to fight them.

The modern battleship is a most wonderful instrument, and represents the highest development of the practical industrial sciences. The latest developments in every department of mechanical industry, chemistry, electricity, steam engineering, hydraulics and pneumatics contribute to the construction which shall have the greatest offensive power by its armament of the largest guns and the greatest possible protection by means of armor.

It takes nearly four years to fully complete a modern battleship and a year or two more before her officers and crew can claim to be able to get the very best results from the ship. But it is not only necessary to have these battleships but also to have squadrons and fleets of battleships in order to be able to command the sea when disputed by any of the other great powers. In handling these squadrons of battleships the United States navy has had no experience and is at present urgently in need of opportunity to manoeuvre a fleet of battleships so that the combined force will be employed to the best advantage. A study of naval tactics is evidently a most urgent necessity, and while the naval war games throw some light on this subject, it is realized by most naval officers that there is urgent necessity for elaborate and constant drill to develop a most efficient system of battle tactics. Admiral McCalla several years ago proposed a system of naval tactics which has not been adopted and which was adversely criticised by the experts with the naval war games. This system is somewhat similar to the double echelon tactics of Captain Labres, of the Austrian navy.

Without discussing the merits of these systems of naval tactics, a point is brought out to show that we have no provision for a reserve force in a naval engagement. McCalla's tactics seem to provide such a reserve, but these tactics have not been tried by any fleet, and we do not know how this reserve force can be brought into play efficiently in a naval engagement; though most battles on land have been decided by the timely appearance of the reserves. We need a large fleet to demonstrate this and other important features which we cannot expect our British cousins to tell us while they guard all their manoeuvres so strictly from the eyes of foreign attachés.

The urgent necessity of a powerful navy in order to preserve the peace of the world does not admit of any argument. The question is, What do we need? The reason why we need a navy is apparent from the recent war in the East. If we consider our relations to China and Japan we may well reflect whether we can continue to exclude Chinese from the United States, or include the Japanese in the same category as the Chinese and still demand the right of Americans to trade in China and send missionaries there. If China had had a navy she would not have been obliged to let England take Hongkong, the Germans to seize Kiaochaou, France, to take Tonquin, and, finally, Russia to seize Port Arthur. China is wealthy, and the Europeans seized the Chinese ports because they had the power. If the United States has not an adequate navy there is no reason why any power that feels it to be to her interest to seize any part of our territory should hesitate to do so. It is hardly probable that any European power would attempt anything of the kind at present, but we cannot expect them to keep their hands off the American continent or respect the Monroe Doctrine unless we have the force wherewith to compel this respect.

The completion of the Panama Canal in 1914 will require an adequate naval force for its protection. The force required is generally thought by officers of the United States navy to be at least fifty battleships, which should be divided into five squadrons of nine battleships each, including flagships, and

one reserve for each of the five squadrons. This organization would give two squadrons each in the Atlantic and in the Pacific Oceans, with one squadron in the Caribbean Sea that could readily reinforce either the Atlantic or Pacific fleets, maintaining command of the Isthmian Canal. These fifty battleships would require a proportion of other naval vessels which would give thirty-three armored cruisers of the Washington type, and twenty-five fast scouts, which would be transoceanic merchant steamers built for the navy but armed only in time of war. The rest of the fleet would be 100 torpedo-boat destroyers. There will be a number of auxiliaries, viz.: colliers, transports, ammunition ships, depot machine ships for repairs, distilling ships, hospital ships, and cable ships. Gunboats and cruisers not armored will be useful only in dealings with weak navies, such as those of the South American republics. No such vessels should be built in the future. The navy should confine itself entirely to the four types mentioned, namely, battleships, armored cruisers, fast scouts and destroyers. The auxiliary vessels can be obtained from the merchant marine, and obsolete battleships will be able to do all the duty against weak navies.

The proposition to build fast scouts which shall be transoceanic mail steamers, to be armed only in case of war, would provide a fleet of twenty-five fast scouts, like the *St. Paul* and *St. Louis*, capable of maintaining a sea speed of twenty-four knots. In view of the fact that the American people will not listen to any argument for subsidizing mail steamers, might it not be possible for the government to build these transoceanic mail steamers as fast military scouts, which in time of peace may be leased to private companies to operate and to maintain in condition for conversion into scouts, while carrying transoceanic passengers and mails. Something must be done to aid our merchant marine, for at this present moment there is not a single transoceanic merchant steamer being built in any shipyard in the United States, and every suggestion as to how to build up our merchant marine should be diligently considered.

Our patriotism ought to cause us to provide this navy, this fleet of fifty battleships before 1914. The United States should be at least equal to that of any other power on the high seas. The establishment of the Peace Congress at The Hague does not mean disarmament. The police of a city is necessary even when there are law courts, and The Hague Peace Congress will need an adequate police force in the shape of the navies of the world in order to enforce its decrees, and the nations that have the most to protect, the largest sea interests, the greatest sea coast, etc., should have the largest naval force. Surely the United States navy should be equal to that of England, but England has now fifty-two battleships built, while we have but fifteen actually finished with ten more building. By 1914 England will have at least one hundred battleships, at the present rate which she is laying down these vessels. Germany completed her program for thirty-eight battleships by laying down the last one this year; while it is contemplated to double this fleet and provide for a total of seventy-six battleships by 1914.

In view of this, and of the fact that the French, Russian and Japanese navies will also be largely increased to number at least fifty battleships by 1914, the appeal I make for fifty battleships for the United States navy is surely not extravagant. During a recent cruise on the Asiatic station in command of the Monterey, I saw a great deal of the Chinese, and in common with all other naval officers, I realize that the Chinese, as a race, are indeed a wonderful people, endowed with the highest abilities. If the Chinese could once be aroused from the lethargy of their intense selfishness and be endowed with a patriotism such as we now see pervading Japan, the yellow peril would not be a mere nightmare.

The American people can not remain silent in the future affairs of the world. We must rise to the occasion and be so prepared for war that no nation will dare to go to war with us. During the nearly four years that I served as naval attaché in Berlin, Rome and Vienna, this doctrine of

preparedness for war was constantly being asserted in Europe. The German Emperor claims to have preserved the peace of Europe for thirty years by his magnificent armies which are so efficient that no one has dared to go to war with him. He is the most enthusiastic disciple of Mahan's doctrine of the influence of sea power, and his great speech that Germany's future is upon the sea has been circulated into every hamlet throughout the German Empire.

The far-sighted German Emperor devotes his energy to the creation of a powerful navy. The wonderful growth of the German Navy League, which acquired an active membership of 600,000 within three years after it was founded, illustrates German activity in regard to sea interests. The German Navy League has branches in every town throughout the empire, and fortnightly meetings are well attended to hear illustrated lectures about the navy and maritime life to interest the inland population of the empire in naval affairs. The ravages of the Napoleonic war and the Thirty Years' War, etc., are depicted so that for the future the Germans will want to have all their wars away from their homes upon the high seas or in the enemy's country.

Germany has only recently become a great maritime power, and has made the most rapid progress in recent years. Her navy is most efficient because in all naval affairs Germany—and the same is true of Japan—is not handicapped by conservative traditions. American machinery and manufactures are invading Germany. The German navy is up to date, all her battleships have triple screws, and they carry liquid fuel. Turbine machinery has been introduced. The Germans are far in the lead of all nations in all that pertains to torpedoes and submarine mines.

The constant drill and thorough training of the German navy personnel is admirable; but it is so exacting in minor details that some of my brother officers have questioned if the German sailor would ever rise to an emergency should anything happen not foreseen by the drill book. We are prone to disparage the intelligence of all foreigners because

of the stupid appearance and conduct of immigrants just landed. The immigrants find themselves with everything about them different from that to which they were accustomed, but the foreign sailor on board of his own ships with the environment of his own fellow subjects is at home and is just as bright and quick as are the seamen of other countries in their own ships.

An instance came to my knowledge in the fall of 1901 before Prince Henry's visit. Prince Henry was cruising in his flagship, Kaiser Friederick III, in the Baltic when she struck an uncharted glacial boulder on Adler Shoal. The ship struck with great violence in the wake of a petroleum oil tank in her double bottoms. Both inner and outer bottoms were penetrated. The force of the blow forced oil up through an air-escape pipe with such violence that the pipe burst at the level of the top of the boilers and the oil flowed down and was ignited by the fires under the boilers. Flame and smoke filled the compartment, while water streamed in through the leak, but the sailors did not abandon this fire room until after they had screwed up the stiffening braces of the watertight bulkheads, after which they pumped water into the compartment through the fire mains to float the burning oil up to the ceiling of the protective deck, so that the flames were extinguished when the compartment was entirely filled with water. Prince Henry then took the ship to Kiel. Surely there was nothing prescribed in the drill book for this emergency, and even American sailors could not have done any better.

We have a high opinion of ourselves in the United States navy, but we are conservative and have not yet introduced triple screws for our battleships, smokeless liquid fuel, nor turbine engines. We are just beginning to introduce torpedo armament in our battleships, and we must admit that we are far behind European navies in torpedo and mining warfare. We therefore urgently need these battleships now in time of peace so that we may drill with them and be fully prepared to use them in time of war.

The cost of this enormous fleet of fifty battleships with proportion of other vessels must be considered, and if we take the actual battleship as costing \$8,000,000, it will require \$400,000,000 to build the fifty battleships and probably as much more again to build the 205 other vessels (armored cruisers, scouts, destroyers and auxiliaries), or a total of \$800,000,000, ignoring the fact that we have twenty-five battleships already built and building. Eight hundred million dollars spent in ten years would require \$80,000,000 annually, or at the rate of \$1 per capita of United States population. For maintenance would be required about \$80,000,000 annually, or a total of \$2 per capita. This is naval war insurance. As compared with our naval pension since the Civil War, which has cost us annually about what this fleet of fifty battleships will cost, this naval war insurance is not expensive. The pensions represent a very small fraction of the damages done by the war, and if we do not provide this fleet now, in time of peace, a war will find us unprepared and the enemy will oblige us to pay an indemnity to reimburse him for what he had spent to build his navy.

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The American Fighting Fleet; Its Strategic Disposition.

John Callan O'Laughlin.

In an age of preparation for war the peace policy of the United States with respect to the distribution of its fleet has an importance of great moment to the American people and to maritime nations whose interests may clash with those of the United States. This policy, now nearing consummation, has been little advertised; but it is safe to say that more thought has been given to it than to any other feature of recent naval development. Much has been heard

about the types of the latest American battleships, the improvements in guns and armour, and the necessity for more officers and men and the training of those in service; but while public attention has been riveted upon these matters, the United States Navy Department has been quietly gathering the fighting units of the fleet and placing them in strategic positions where they will be able to render effective service, whether in the way of offence or defence.

The organisation of the ideal fleet begins with the designing of the ships that will comprise it; but human ingenuity, constantly striving to increase the destructive power of weapons, makes advances which no nation having interests to protect can afford to disregard. Homogeneity, which has been justly defined as a judiciously regulated harmony of navigability, radius of action, and speed, is the first quality sought by the naval tactician. It could be achieved by the reproduction of one type of ship, irrespective of developments that give superiority. But a power that pursued such a policy would bring upon itself the reproach of non-progressiveness, and non-progressiveness is another way of spelling retrogradation. So the tactician, directing the distribution of the modern fleet, must take into consideration the diverse elements comprising it and effect a union of those which have points of resemblance.

Certain elements are incapable of amalgamation, as, for instance, the Katahdin, which is the ebullition of a period when the naval world inclined to the superiority of the ram as a weapon of offense, and which possesses no other means of attack, and the dynamite cruiser Vesuvius which was built to hurl large charges of high explosives at an enemy. And one might also mention the triple-screw cruisers Columbia and Minneapolis. The Katahdin never had sufficient speed to catch an active enemy, and to-day would be sunk by shell or torpedo before she could get within ramming distance. The pneumatic guns of the Vesuvius had a range far less than that of the high-power guns of a modern man-of-war, and could be destroyed before she could fire a projectile.

The triple-screw cruisers *Columbia* and *Minneapolis*, though fast, are no longer mistresses of the sea, and, moreover, the reasoning upon which their construction was based was faulty. It was believed that the operations of these vessels would annihilate the commerce of an enemy, who thus would be compelled to sue for peace; but in modern war, victory will be achieved by that nation which gains command of the sea, and command of the sea will be the prize for which armour clads will fight.

That more attention has not been paid to homogeneity in the building-up of the American fleet is, in part, attributable to the country itself, which, a dozen years ago, feared to build a navy for offence. The Monitor saved the Union in the Civil War, and the nation went mad over it, building vessels of the Monitor type thirty-three years after the war had closed, and when other nations and even the United States had combined the Monitor and the Confederate Merrimac and produced the battleship. The earliest first-class American battleships were the *Indiana*, *Oregon*, *Massachusetts*. They were described as coast defence battleships and built as such. Then came the *Iowa*, a "seagoing coast-line battleship," whatever that may mean; but the designation allayed the apprehension of timid Congressmen who feared to make a bold declaration in behalf of a formidable navy, and it was inserted in every law authorising vessels of this class until that of July, 1902, when national sentiment was considered strong enough to support appropriations for "seagoing battleships."

In spite of legislative limitation, all the battleships of the United States were built to keep the sea; and the record run of the *Oregon* from San Francisco to Key West, where she reinforced the squadron preparing to meet the Spanish fleet, is a vindication of the sagacity of naval constructors who went as far as liberal interpretation of law permitted. In looking over the characteristics of the battleships in service or building, we find that their displacement ranges

from 10,288 to 16,000 tons; their actual speed from 15 to 19 knots an hour, and their radius of action from 4000 to 8000 miles.

There is a variation less serious, fortunately, in the armoured cruisers. The New York is the smallest and slowest, having a displacement of 8400 tons and a trial speed of 21 knots and the Tennessee and Washington, under construction, are the largest, displacing 14,500 tons. Their speed will be 22 knots an hour.

A nation's fighting strength consists of those vessels available at the moment for action, or which can be gotten ready within a reasonable space of time. Ships under construction must be disregarded, therefore, except as prospective units; and in the policy governing the distribution of the fleet, account is taken only of ships in commission or capable of being put into active service without delay.

This limitation has been an impassable wall to the general board of the navy, which is responsible, under the Secretary of the Navy, for the distribution of the fleet made within the past year. In comparison with the magnitude of the interests requiring protection, the means available are meagre, but the board has disposed of them in a way best calculated to meet possible emergencies. In making the dispositions, consideration has been given necessarily to existing diplomatic conditions and to the naval strength of nations with which there is a possibility of war.

It is now a commonplace to say that the war with Spain established the rank of the United States as that of a power of the first class. But the fact of such recognition found existence in the recognition of strength to maintain that rank. The war brought also an increase of more material obligations. Before 1898 the United States was vulnerable only upon its own coasts. Now it is vulnerable not only upon those coasts, but in the Philippines, in Guam, in Hawaii, in Cuba, and in Porto Rico, and it will be in a few years in the Isthmian Canal. It has declared for the territorial and administrative entity of China, and the declaration is worth

nothing unless it be supported by force. The Monroe Doctrine has been always an object of solicitude.

The nation thus measures its resources and its responsibilities. Out of the tactical calculations may be taken at once the possibility of military invasion. It is command of the sea that will determine the victor in the future war, as it was command of the sea which determined it in the war with Spain. Looking over the list of maritime nations which may become enemies of the United States, we eliminate Spain, because of her crushing defeat and the impossibility of her recovery to do harm, and Great Britain, which cannot afford war with the United States, first because it would involve the danger of intervention by European governments anxious to destroy or, at least, cripple British power; second, because of the disturbance of her commercial and financial interests; and, third, because of the certainty that Canada would be invaded and probably conquered.

With Russia and France the United States has possible points of conflict in China, so that they are to be considered; but the chance of war with them, especially with Russia, which has been America's lifelong friend, is so remote that now it is given only cautionary attention.

Germany, Austria, and Italy, forming the Triple Alliance, are the nations which especially concern the United States; not that the Triple Alliance extends to American questions,—it does not, and Italy would refrain, it is believed, from participating in a war with the United States. Germany's attitude is so well known that it is unnecessary to describe it. Austria has made no secret of her hatred of America, a feeling due to commercial jealousy and intensified by the downfall of Spain. Undoubtedly she would give to Germany whatever assistance she could within the bounds of neutrality, and might even exceed them. But Austria is torn by internal dissension, and the price of a foreign war might be disruption.

At the present time the United States has nothing to fear from Japan. That government welcomed the American oc-

cupation of the Philippines because of the belief that the United States, its foot at the gateway of China, would not stand idly by and permit partition of the Empire. Japan is contesting Russian occupation of Northern China and Korea; but the Czar has almost won Manchuria, which is bound to his Empire by girders of steel,—the branch line of the Trans-Siberian Railroad which connects St. Petersburg with Port Arthur and Dalny, the one a naval stronghold, and the other a commercial port lying at the southern end of the Manchurian peninsula. Japan has a treaty of alliance with Great Britain for the preservation of the territorial integrity of China and the maintenance of the "Open Door." Russia, France, and Germany, in spite of their declarations, are regarded as the nations eager to carve up the Empire. The United States is the balance of power. Japan may be disposed some day to dispute American supremacy in the Pacific, but that day is distant.

The commerce of the United States pulses to every land, and it is a temptation for the government to dispatch warships to foster and protect it. This was the policy before, and for a time after, the war with Spain. To fritter away the naval strength of the nation by such a course was advantageous commercially, but unpardonable tactically. It is easy to recall the hasty organisation of squadrons on the outbreak of the war with Spain; the dispatch of reinforcements and ammunition to Dewey, on the China Station; the formation of the flying squadron under Schley; and of a coast defence, or, as it was then called, the northern patrol squadron, which would have proved as effective in repelling a single well-manned armoured cruiser as was the Spanish squadron when subjected off Santiago to the fire of the American fleet.

The tactical manoeuvres of the fleet prior to the war were limited to the armour-clads of the North Atlantic Station, which, under the command of Rear-Admiral Bunce, and later of Rear-Admiral Sicard, were brought to a reasonable degree of efficiency. The remainder of the fleet had never cruised

in squadron, or so rarely that the experience was of no practical value.

Following the war with Spain there was a renewal of manoeuvres by the North Atlantic squadron; but the neglect to train the whole fleet, manifested before the struggle, was maintained after it. Some excuse for this failure to observe elementary principles existed in the Philippine insurrection and in China, when the Boxer revolt held the attention of the civilised world. To aid in the suppression of the insurrection, and also to assert American purpose to retain the archipelago, the battleships Iowa and Oregon were detached from the North Atlantic Squadron, after the signature of the Spanish peace protocol, and sent to the Pacific. The Iowa was subsequently ordered to return to the South Atlantic, where she became flagship of the squadron in those waters.

The Oregon remained in the Far East until the termination of the Boxer revolt, when she proceeded to Bremerton, Washington, for repairs. The Kentucky, placed in commission, was dispatched to the Far East, where she received the flag of the commander-in-chief. The Wisconsin, commissioned at San Francisco, was designated as the flagship of the Pacific Station. The Illinois, immediately after entering active service, became the flagship of the commander-in-chief of the European Station. The President was induced to approve the use of battleships as flagships. Thus the armoured strength of the United States Navy, most effective, of course, when acting as a unit, was dispensed over the globe, and each battleship was in a position to be cut off and compelled to enter into action with an enterprising and superior enemy.

President Roosevelt's eyes were opened to the inadvisability of his order, and he revoked it. Mobilisation of the battleships was directed, in spite of many protests. The order was executed in the Atlantic after the recent manoeuvres in the Caribbean Sea, in which the North Atlantic, South Atlantic and European squadrons participated. Admiral Dewey has said, without intending offence to

Germany, that those manoeuvres were an object lesson to that country. But the results growing out of them are of far greater significance, for the foreign naval tactician understands the tremendous increase in the power of the American fleet caused by the collection of the battleships of the three squadrons named. The battleships in the Pacific Ocean have just effected mobilisation.

The history of future naval war may be read in the past, and in the light of what has been it is evident that the Caribbean Sea will continue to be the battle ground upon which nations will fight for supremacy in the western hemisphere. The importance of this region will be increased when the Isthmian Canal is completed. Admiral Dewey has described the sea as an American lake, and another distinguished naval officer has been credited with saying that it will be to the United States what the Mediterranean is to Great Britain.

This latter comparison is not entirely justified. The Mediterranean is the great pathway to Britain's commercial and colonial supremacy. That the Isthmian Canal will increase the importance of the Caribbean Sea to the United States there can be no question. It will be the road that American commerce will take between the Atlantic and Pacific coasts, from the Atlantic coast to the Pacific coast of South America, the Pacific islands and the Far East, and from the Pacific coast to the eastern coast of South America and Europe.

The general board has recognised the present importance of this sea by stationing there a division of the North Atlantic fleet, consisting of cruisers and gunboats and a transport carrying marine. This division is always ready to proceed to a country in the throes of revolution, and, if conditions require it, the marines are disembarked. Rarely is a single ship sent; the squadron goes—an important difference. With such a force at hand, prepared to protect British and Continental, as well as American interests, excuse for European intervention is absent. Moreover, the vessels moving together have an opportunity to drill. With the Isthmian Canal completed and in service, this squadron will un-

doubtedly be of a size commensurate with the importance of the interests in its care. It will probably never be of the same strength as that which Great Britain is compelled to maintain in the Mediterranean. The shores washed by the waters of the European sea are those of France, Britain's bitter enemy; of Italy, whose coolness toward the British government is partially responsible for the recent rearrangement of the latter's naval force; and of Austria, which is linked with Germany in dislike of King Edward's people. The United States has no such enemies in the Caribbean Sea. Germany, Austria, and Italy have not even coaling stations there. The Monroe Doctrine will prevent those countries, or any other, from acquiring territory on the western hemisphere.

Protection of the interests of the United States in the Atlantic Ocean are to-day entrusted to a battle fleet, the first of its kind ever organised by the United States. There is a second line of defence, consisting of a home or coast defence squadron, which is made up of the second-class battleship Texas (flagship), monitors and torpedo-boats. But every great captain has recognised that the best defence is offence, and it is the battle fleet upon which the hopes of the country must rest in the next war. It will be the duty of that fleet to seek the enemy when he comes within the circle of its influence and to offer him battle. So inadequate is the navy to-day that there is no reserve which can be drawn upon,—a deficiency the United States will regret in future hostilities when easy victory will be impossible and ships will be more or less damaged. If the American fleet be defeated, then the Home Squadron must endeavour to assist the fortifications to prevent a successful assault upon any of the Atlantic or Gulf ports.

In Europe and South America the United States needs to maintain only squadrons to observe and to protect its commercial interests. "Westward the course of Empire takes its way," is an aphorism that has truly marked American progress. The war with Spain caused the United States to leave the continent and to forge a chain across the Pacific

That chain is to America what Britain's chain, between her Isles and her Indian and Australasian Empire, is to her. It cannot, must not, be broken. The Pacific Ocean fifty, nay ten, years ago, was relatively unimportant. To-day its importance is tremendous; within a generation it will have a value to the world now hardly dreamed of. The geographical position of the United States has given the country an initial commercial and strategic advantage which is being seized, and which, the character of the American people proves, will be pressed.

Therefore, while existing conditions impose the necessity of establishing and maintaining a strong battle fleet in the North Atlantic, the United States naval authorities have not lost sight of American obligations in the Pacific. Distant as is the Pacific slope from any nation apt to engage the United States in war, no imperative need exists for a battle fleet there, and a cruiser squadron is considered sufficient for drill and protection of American interests along the revolutionary coast of Central America. A South Pacific squadron is a desirability, but its formation can be postponed until more ships are built. The Eastern Pacific, which is to-day the prominent point of the world's naval activity, is especially important to the United States, because of the Philippines and China. The Navy Department has organised on this station a battle fleet lacking homogeneity, for there are only three battle-ships available, and they are supported by two monitors, and a cruiser squadron, which is homogeneous.

It is worth while to recall how the Far East has grown in the eyes of the world. Ten years ago Great Britain believed four cruisers and fourteen smaller vessels ample to protect her interests in that section. In 1897 she had put one battleship in Chinese waters. Now she has a squadron, regarded as a unit of high fighting value, consisting of five armoured ships, four of which are battle ships of 12,950 tons each, and one a modern armoured cruiser of 12,000 tons. Russia is weakening her Baltic Sea defence to strengthen her Far Eastern fleet, a step imposed upon her by the British-

Japanese alliance. France, also, has increased her strength in China. Japan keeps her entire navy at home. Germany has observed the policy of concentrating her men-of-war in North Sea waters, and has only three ships of fighting value in the China Sea,—an armoured cruiser and two protected cruisers.

The strength of the American fleet and its distribution in 1897 and its strength and distribution in 1903 are shown in the following table:—

NORTH ATLANTIC FLEET

1897	1903
Battle Fleet	Battle Fleet
(None)	Battleships
Battleships	Maine (flagship)
Indiana	Kearsarge
Massachusetts	Alabama
Iowa	Illinois
Texas (2d class)	Iowa
Armored Cruisers	Indiana
New York (flagship)	Massachusetts
1897	1903
Battle Fleet	Battle Fleet
Brooklyn	Missouri (to be commissioned)
Maine	Gunboat
Unprotected Cruisers	Scorpion (tender)
Montgomery	
Detroit	
Marblehead	
Desvignes (dynamite cruiser)	
Monitors	
Puritan	
Terror	
Gunboats	
Wilmington	
Fern	
Caribbean Sea Div.	Caribbean Sea Div.
(None)	Protected Cruisers
	Olympia (flagship)
	Atlanta
	Gunboats
	Marietta
	Vixen
	Marine transport
	Panther
Coast Defence Div.	Coast Defence Div.
(None)	Battleship, 2d class
	Texas (flagship)
	Monitors
	Arkansas
	Florida
	Nevada

ENLARGEMENT OF U. S. NAVY

35

1897
Torpedo Boat De-
stroyer Flotilla
(None)

Training Squadron
(None)
Training Ships, Atlantic
Waters
Essex
Alliance
Monongahela
Standish

Training Squadron, Pa-
cific Waters
(None)
Trainingship Pacific
Waters
Essex

1903
Torpedo Boat De-
stroyer Flotilla
Destroyers
Decatur (flagship)
Rainbridge
Barry
Chauncey
Dale

Training Squadron
Training Ships, Atlantic
Waters
Buffalo
Prairie
Dixie
Yankee
Hartford
Topeka
Alliance
Lancaster
Monongahela
Columbia (flagship)
Amphitrite
Training Squadron, Pa-
cific Waters
Adams
Alert
Pensacola
Ranger

ASIATIC FLEET

Battle Fleet
(None)
Protected Cruisers
Olympia
Boston
Gunboats
Yorktown
Machias
Petrel
Monocacy

Cruiser Squadron
(None)

Philippine Squadron
(None)

Colliers and Sup-
ply Ships
(None)

Battle Fleet
Battleships
Kentucky (flagship)
Wisconsin
Oregon
Monitors
Monterey
Monadnock

Cruiser Squadron
Protected Cruisers
New Orleans
Albany
Cincinnati
Raleigh

Philippine Squadron
Auxiliary Cruiser
Rainbow (flagship)
Gunboats
Twenty-five

Colliers and Sup-
ply Ships
Seven

SELECTED ARTICLES ON

EUROPEAN SQUADRON

1897	1903
Cruiser Squadron	Cruiser Squadron
(None)	Armoured Cruiser
Protected Cruisers	Brooklyn (flagship)
San Francisco (flagship)	Protected Cruisers
Minneapolis (triple screw)	Chicago
Cincinnati	San Francisco
Raleigh	Baltimore
Gunboat	Gunboat
Bancroft	Machias (tender)

SOUTH ATLANTIC SQUADRON

Cruiser Squadron	Cruiser Squadron
(None)	Protected Cruisers
	Newark (flagship)
	Unprotected Cruisers
	Detroit
	Marblehead
	Montgomery
	Gunboat
	Gloucester (tender)

PACIFIC SQUADRON

Cruiser Squadron	Cruiser Squadron
(None)	Armoured Cruiser
Battleship	New York (flagship)
Oregon	Protected Cruiser
Protected Cruisers	Boston
Philadelphia (flagship)	Gunboats
Monitors	Bennington
Monterey	Concord
Monadnock	
Sloops	
Alert	
Marion	

Another indication of the attention that the naval authorities are giving to the fleet may be found in the number of officers of flag rank now at sea. The asterisks show the new commands created during the past two years:—

Rear-Admiral Albert S. Barker, commander-in-chief of the North Atlantic Fleet.

* Rear-Admiral Joseph B. Coghlan, commanding Caribbean Squadron, North Atlantic Fleet.

* Rear-Admiral James H. Sands, commanding Coast Defence Squadron, North Atlantic Fleet.

* Rear-Admiral William C. Wise, commanding Training Squadron in North Atlantic waters.

Rear-Admiral Robley D. Evans, commander-in-chief of the Asiatic Fleet.

* Rear-Admiral Philip H. Cooper, commanding Northern or China Squadron, Asiatic Fleet.

* Rear-Admiral Yates Stirling, commanding the Philippine Squadron, Asiatic Fleet.

* Rear-Admiral Benj. P. Lamberton, commander-in-chief of the South Atlantic Squadron.

Rear Admiral Charles S. Cotton, commander-in-chief of the European Squadron.

Rear-Admiral Henry Glass, commander-in-chief of the Pacific Squadron.

It may be asked,—Is the fleet, as at present disposed, able to take care of the vital interests entrusted to it? There is but one answer, and that emphatically No! The disposition of the fleet cannot be improved. The elements comprising it are good. The morale of its personnel is high. Yet it is absurdly weak in comparison with the magnitude of American interests and the requirements which war will create.

An appreciation of the naval necessity of the country has induced Congress to make substantial increases in the past five years.

Other nations, Germany particularly, are pledged to shipbuilding programmes which will make them superior to the United States. Emperor William has based his plea for a strong navy on the ground that Germany wants peace on the sea. This is also the desire of the United States, and the way to assure it is to organise a force so strong that attack would invite disaster. This does not mean that the United States should have a naval armament out of proportion to its interests. It means that, taking into consideration American responsibilities, the country should provide a navy which will enable it, unfettered by foreign threat, to observe them, and to do so in the way civilisation and humanity dictate.

Cosmopolitan. 29: 609-II. October, 1900.

Our Navy Fifty Years From Now. William E. Chandler.

The twentieth century is destined to witness some very important new departures in the art of naval warfare, and

the most notable of these may be the disappearance of armored ships. My notion is that fifty years hence the armor-clad fighting-vessel will be as completely out-of-date as is the armored fighting-man to-day. Soldiers are no longer protected in battle by suits of mail, because they prefer to take their chances of being wounded or killed rather than carry the weight and suffer the incidental impediment to their activity. To the war-ships of the future the same idea will be considered as applying, and, in order to inflict the utmost possible damage upon the enemy, they will accept great risks fearlessly, relying for safety upon rapidity of movement, skill in manoeuvring, and, above all, a dexterity in a sea-fight which shall accomplish the destruction of the adversary before the latter can succeed in striking a deadly blow.

The typical war-ship of the twentieth century—of fifty years hence, let us say—will be exceedingly swift and readily dirigible, so as to manoeuvre with ease. It will carry a great many guns of moderate caliber, the very large ship-cannon of to-day being dispensed with, and all of them will be of the rapid-fire kind, while the shells will be loaded with high explosives capable of enormous destruction.

It is obvious that, if the war-ship of the future is to have great speed, its motive power must be proportionate. Engines will doubtless be improved very much, but my belief is that some far more efficient substitute will be found for steam as a propelling agent. What that substitute will be nobody can say, though electricity seems more likely than anything else. In the present state of the electrical art that force is not available for such use, inasmuch as storage batteries would weigh too much; but later discovery may do away with the necessity of employing accumulators, introducing some new and easy method of producing and applying electric energy.

It does not seem too much to expect that the cruiser of the twentieth century, with her improved machinery and new motive-power, will have a steaming radius twice as great as that of the best vessel of her type to-day. In other words, she will be able to travel twice as far without a fresh supply of fuel. Our fastest naval greyhound, the "Minneap-

olis," has a steaming radius of about nine thousand miles, and, on the basis suggested, the swiftest fighting-craft of fifty years hence (not including torpedo-boats) could make a voyage of eighteen thousand miles, at a stretch, without entering a port. This ship of the future will possess an astonishing activity, traversing immense distances at a high rate of speed, and with a small consumption of fuel. A very notable point about our war-ships of the present day is their low fuel-consumption on long voyages; but this has always implied slow going, the coal-consumption running up with a startling multiple when speed is increased.

If my theory be correct, the armored ship of the twentieth century will be regarded, like the mail-clad fighting-man, as a relic of the past, and the war-vessel will take its chances in conflict, just as the soldier does to-day. Perhaps the war-ship may retain a light protective coat, very strong for its thickness, but the enormously heavy plates now in use will be dispensed with, simply for the reason that they interfere too much with the activity and serviceableness of the dirigible floating platform which carries the guns. Our new battleship, the "Kearsarge," carries no less than twenty-seven hundred tons of armor—a weight so gigantic as to render her clumsy and sluggish.

Already our own Navy Department has come to realize that armor has been overdone, and the thickness of the steel plates is to be much reduced in the newly ordered war-ships. This, unquestionably, is a step in the right direction. One trouble about the modern battle-ship is that in a sea-way she finds difficulty in firing her guns, because she rocks so much, and it has been asserted by experts that a cruiser like the "Brooklyn," having a higher freeboard and therefore a more stable gun-platform, could stand off at long range in rough weather and "knock out" the most powerful battle-ship, which would be as helpless under such circumstances as a cow attacked by a tiger-cat. It is not sufficient to be formidable merely in defense; readiness to attack, which in a war-vessel implies nimbleness, is at least equally important.

Not being myself an expert in such matters, technically speaking, I am obliged to confine myself to generalities. To

attempt a discussion of the relative merits of the battle-ship and the armored cruiser, for example, would be to venture outside of my knowledge and into a field with which I have not a proper scientific acquaintance. On the other hand, I do not hesitate to venture the prediction that fifty years from now there will be no such great differentiation in types of fighting-ships as we behold at present. At one extreme we have the battle-ship, and at the other the unprotected greyhound cruiser with small offensive power and no defensive equipment except her heels—in other words, her ability to run in case of danger. If I am not mistaken, the sea-fighters of the future will be, in the main, of one type—with light armor, if any; swift, nimble of movement, and with tremendous destructive power. Already there is a marked tendency to increase the number of guns and make them of somewhat smaller caliber, the great ship-cannon mounted in the turrets of the "Indiana" and other battleships of ours to-day being too slow of fire and too clumsy to handle. When high explosives are used in shells, as will soon be the case, projectiles of moderate size will carry them in adequate quantities, and the best results will be obtained by concentrating the fire of many guns. It goes without saying that the weapons employed, whatever their size, will all be of the quick-fire type, so as to throw literally a storm of bursting projectiles at the enemy.

The loss of life in a twentieth-century naval battle will be very great, the means of destruction used being so tremendous, and we may expect now and then to see a vessel wiped out with a single well-aimed shot, all on board perishing, because in such a conflict there will be no time to pick up the survivors. On the other hand, much will be gained for safety by making the ships fireproof—a change which has already been adopted in the plans for all of our newly ordered fighting-craft. Warships in future will be non-combustible from stem to stern. Wood has to be utilized for some purposes on board, though the furniture may be of metal, but there is no difficulty in rendering it absolutely proof against fire by a

mineralizing process which has been adopted by the government for this purpose.

Necessarily, the enemy's vessels would be as vulnerable as our own, for lack of armor—a remark which recalls to my mind an incident that occurred when I was Secretary of the Navy. We had begun the new navy by contracting for the "Chicago," the "Boston," the "Atlanta," and the "Dolphin," and our next program was a very modest one, calling for the construction of only four additional ships. More were wanted, but it was thought that four were as many as we could hope to get. In those days the importance of sea-power was not recognized in this country as it is now, and many people in Congress could always be counted on to oppose any measure for the increase of our maritime forces. A Democratic Senator from the East, in particular, was against furnishing money for a Republican Secretary to spend on war-vessels, and it was in vain that he was urged to consent to it. Looking for a pretext for opposition, he found one that was rather ingenious. He came into the room of the Senate Naval Committee one morning and said:

"Mr. Chairman, I've been thinking this business over, and I don't see that we need any more ships—at all events, not just now. Here is this new stuff called dynamite, which is so powerful that a small projectile loaded with it may destroy and blow to atoms the biggest war-vessel in the world. There is no use in putting a great sum of money into a craft that can be smashed with a single shot. So I think that, instead of going any further, the subject of dynamite ought to receive careful investigation."

Evidently it did not occur to the Senator to consider that dynamite, in a fight on the seas, could not be thrown at us except from a ship, which necessarily would be as vulnerable to attack by high explosives as our own vessels. But the remarks quoted are interesting to-day, as illustrating the development of ideas on the subject of naval warfare within the last eighteen years. The money for the four ships I wanted was not given to me, but to Mr. Whitney afterward.

According to my notion, it will be thought fifty years hence that six million dollars is too large a sum to risk in a single war-ship, and that it is better to build two or three of less size for the same money. I am strongly inclined to think that, under twentieth-century conditions, two or three comparatively small fighting-vessels, powerfully armed and very speedy, may do much more execution and accomplish more effective results than one huge floating fortress. One trouble about modern battle-ships is that they are apt to be obsolete by the time they are finished, and a few years hence we may find our boasted sea-fighters relegated to rust in the navy-yards, alongside of the old-time wooden frigates. It is the experience of foreign nations that any type of iron-clad vessel becomes so out-of-date in about ten years as to be almost useless.

The use of the torpedo in naval warfare will be greatly developed in the course of the next fifty years. Of the employment of torpedo-boats I have always been a strong advocate; but the lessons of recent history point to the conclusion that small craft of this kind are too vulnerable to be of much practical service, unless for scouting duty or to steal upon an unsuspecting foe at night. This latter move, indeed, is rendered almost impracticable by the detective searchlight. Probably the torpedo-boat of the future will be of considerable size, and will carry a fair battery of rapid-fire guns, so as to be able to put up some sort of fight, while seeking a chance to deliver its more deadly and destructive missile.

I am inclined to think that the pneumatic gun will be dispensed with. Its range is very short and its trajectory so high as to make accuracy of aim difficult. Besides, what will be the use of it when ordinary guns throw high explosives? As for the range of ship-cannon, it is not likely to be increased; for there is no object in throwing a shell ten or fifteen miles when a ship is concealed by the curvature of the earth at seven miles. Furthermore, war-vessels would hardly begin an action until within two miles of each other.

One important new departure will be the adoption of some sort of paint for ships' bottoms which will prevent them from fouling. This is a matter of the utmost importance, inasmuch as a foul bottom cuts down a ship's speed and greatly increases her consumption of fuel.

The submarine boat, in my opinion, has a great future before it. In harbors it can hardly be operated with safety, owing to obstructions—particularly torpedoes in war-time. It needs a clear field, and its most effective work will be done outside the mouths of harbors, perhaps running out on the surface of the water—for the sake of clear vision—and then diving to attack the enemy. It may be that, some time in the future, war-ships will carry submarine boats for torpedo service at sea. The question is chiefly one of weight; for, if such a boat can be made light enough, there is no reason why it should not be carried on the deck of a large man-o'-war, just as enormously heavy steam-launches are a part of the equipment of a modern battle-ship.

The increase of our navy depends wholly upon a determination to develop our merchant marine. If the latter is revived, our fighting force on the seas must be increased proportionately, and before the end of the twentieth century we are likely to find ourselves only second in rank among the nations of the world in respect to sea-power, Great Britain still holding the first place. But commerce must come before a larger navy, for, lacking the pugnacity of Germany, France and Russia, we are not likely to build up a great fighting force on the ocean merely with a view to making ourselves formidable in a martial sense. Our first duty is to revive our carrying trade in ships suitable for naval service in time of war.

Forum. 24: 1-15. September, 1897.

A Plea for the Navy. Hilary A. Herbert.

This article proposes to give: (1) The present actual and relative naval strength of the United States; and (2) an opinion—by request of the Editor of The Forum—as to how much our Navy should be increased.

(1) The task of comparing the fighting efficiency of modern men-of-war is exceedingly difficult. In the days of sailing war-vessels—when types and classes of ships were fixed,—the gun was practically the only weapon; and the measure of force was the weight of metal fired in one broad-side. There was, of course, a difference in the power of resistance of vessels: frigates were of lighter scantling, and more lightly armed, than line-of-battle ships,—built of thicker timbers and having more power of resistance,—and whatever difference there was in the rapidity of fire of small and large guns was deemed to be amply compensated for by differences in the weights of projectiles.

There were differences too in the speed of ships. But the speed of a fleet is that of the slowest vessel in it; and as progress in those days often depended on the accidents of wind and weather, speed was not then taken into account as it is now, when vessels can go straight, and within a calculable period of time, to any given point. Sailing vessels could keep the sea for an indefinite length of time. Nelson hunted the allied French and Spanish fleets throughout the West Indies, and eventually brought them to bay at Trafalgar. There was no stopping then to coal, and, therefore, no question of endurance to be considered. Nor was there any thought of shell-power or of ram-power or of torpedo-power. Now, however, all these elements, and many others—such as the relative value of armor, of great guns, of rapid firing guns, draught of water, manoeuvring power, economy of engines, etc.—must be carefully calculated, if any exact esti-

mate is to be made of the relative efficiency of individual ships or fleets.

It scarcely needs saying that no effort to take into account such minute particulars even if it were at all practicable—will be made in a paper like this.

Table No. 1* gives the numbers of ships of the different classes now built and building by the eight principal naval Powers of the world, in the order of their rank. It will be seen that according to this classification of vessels, which is sufficiently accurate for general purposes, the United States occupy easily the fifth place.

Table No. 2* is intended to serve the purpose of a more minute comparison. The method followed therein is to give not only the number of the different classes,—vessels building and built being here added,—but also displacements and certain ratios. "Displacement" is frequently called "tonnage"; but "tonnage," as used in the merchant service, signifies cubical contents according to certain rules of measurement. The displacement of a vessel is the number of tons of water displaced by the ship; and, it is a fair general measure of value, because in each ship, its constructor endeavors to introduce as much as possible of what is valuable in a vessel of the class and size in hand.

The character of a man-of-war is the result of compromises and adjustments between different elements of value; the designer being always limited by the weight he can put in for each purpose. Thus, roughly speaking, in a battle-ship, the weight allowed for armor determines the defensive power of the vessel; the weight of batteries, ammunition, and torpedoes, the offensive power; while the weight of coal and machinery determines the speed as well as the endurance—i. e., the distance the vessel can steam without recoaling. If either great endurance or great speed is wanted in a battle-ship,—total weights having been fixed,—there must be a sacrifice of either offensive or defensive power, and vice versa. So in the construction of all ships of war. In cruisers, intended to be very swift, armor cannot be employed, nor

can very heavy batteries be carried; and in an armored cruiser, intended to combine, as far as possible, speed, endurance, and fighting qualities, the armor and batteries are necessarily lighter than in battle-ships. Bearing these principles in mind, and remembering that the purposes intended to be served by the several classes of vessels are practically the same in all navies, it will be readily understood that displacement is the best practical single measure of value, provided only that the same amount of ingenuity in devising, and skill in constructing, be employed in the ships compared.

In regard to Table No. 2, it is quite safe to say that displacement, as a gauge of efficiency, is by no means unfair to our ships. It is believed they will average in value, according to this standard, somewhat higher than the vessels of other navies, for the reason that we began our programme of construction after many of the ships listed in the other navies had been built; and it is not saying too much for our designers to affirm that they have shown themselves to be quite abreast of the times.

It will be observed that there is quite a difference in the average sizes of ships of the same class. Naval authorities differ as to whether it is better to distribute in battle-ships a given amount of fighting-power among a smaller or a larger number of vessels. Again, the size of cruising ships depends very largely upon the purposes for which they are designed. If intended to act as commerce-destroyers, they must be large enough to have speed and endurance; if to display the flag and protect commerce in times of peace, they must be small and of light draft, so as to be able to enter harbors and rivers where needed.

The figures in Tables 2 and 3 convey their own lessons. They show a remarkable consensus of opinion among naval authorities as to the relative values and possibilities of the different classes of ships. The proportions of the different classes of vessels are much the same in all navies. It is also evident, when we consider the immense cost of these vessels,

and their numbers, that the naval authorities of all nations believe that the naval contests of the future, just as in the days of Nelson and Villeneuve, are to be decided by line-of-battle ships. It is clear too that every nation, with the apparent exception of the United States, has great faith in the efficacy of torpedo-boats. Our Congress has heretofore authorized but twenty-two of these boats,—most of them quite recently. Spain, it will be seen, has 27, Japan 48, and Germany 124. The ratios of our torpedo-boats to our battle-ships, and especially to our total Navy show in a graphic manner how grievously deficient we are in this branch of the service.

For the purpose of a more minute comparison of our Navy with the Italian, next above us, and the German, next below us, there is given in Table No. 3 not only the number of vessels building and built, but also the average horsepower, average speed, and number of guns in main batteries, with their aggregate muzzle-energy.

As to battle-ships, it will be seen that we have two fewer than Germany, and four fewer than Italy: that the total displacement of our ships of this class is much less than that of Italy, and fairly above that of Germany; and similarly as to horse-power. In the main batteries of our battle-ships the number of guns is 182; in those of Germany, 270; of Italy, 241.

What does not appear in the tables is, that some of the Italian battle-ships carry 15- and 16-inch guns. With the exception of Great Britain, no other nation has guns equal in calibre to these. The British, not to be outdone, built a few guns as large as those in the Italian navy; but experience has seemed to show that they are unnecessarily large, at least for naval purposes. They are unwieldy, and apt to droop, and are believed to be deficient in endurance. The largest guns now being built by England and France are of about 12-inch calibre. After mature deliberation, our Department concluded to arm its latest battle-ships with 13-inch guns. The theory upon which our ships are constructed is,

that they are probably to be used near home; and, therefore, with a displacement somewhat less than that of the English, French and Italian battle-ships, the effort has been to give them more offensive and defensive power, thus making them fully equal in battle to the larger ships of those nations. To secure this increase of armor and armament, with less displacement, it was necessary to sacrifice somewhat of speed and endurance. It will be seen, therefore, that our battle-ships, though of a much later average date of design than those of Italy, have one knot less speed: they have, however, two knots more average speed than those of Germany.

The aggregate muzzle-energy of the guns of our battle-ships largely exceeds that of Germany, and, relatively to displacement, is considerably greater than that of the Italian batteries. This results not from any deficiency in armor,—in which we also excel the Italians, but from our later and better guns.

Of armored cruisers we have 2 to Germany's 1 and Italy's 5. The average speed of ours is 21.5 knots, against 19 for Germany and 15 for Italy. The muzzle-energy of the batteries of the single German armored cruiser, however, is over 12,000, while the energy of the batteries of our 2 is under 15,000. Germany, in this ship, appears to have sacrificed two knots in speed, to obtain this increase of gun-power.

Compared with the Italian armored cruisers, not only is the speed of our vessels immensely greater, but the muzzle-energy also is relatively very much higher. Our great superiority in speed over the Italian vessels was secured by increased horse-power; the aggregate horse-power of our 2 vessels being 36,000 against 33,000 for the 5 Italian ships.

We show 20 coast- and harbor-defence vessels, against Germany's 17. These figures are somewhat delusive. Thirteen of these 20 are old iron monitors, all built in 1862. They have been carefully preserved; and, two years ago, most of them were fitted for service. But their engines are poor and of old designs; and their guns are old-fashioned and inferior. Their speed is only 5 or 6 knots; and, consequent-

ly, they bring down the average speed of our coast-defence vessels, as a class, to 10 knots.

We have fewer gun-boats and cruising vessels than either Germany or Italy: but ours average considerably larger than those of either of these nations, and are vastly superior to either in total horse-power, in average speed, and in number and muzzle-energy of guns.

Clearly in cruising vessels and gun-boats, our rank is decidedly over that of either Italy or Germany.

Besides the ships taken into account in the tables given we have, like other naval Powers, vessels serving in the merchant marine that can be called or taken into service in the time of war. The "New York," the "Paris," the "St. Louis," the "St. Paul," and other ships carrying mail to foreign countries are now in the pay of our government, and can be called in at short notice. These we denominate our Auxiliary Navy. Other ships, not under pay,—coastwise-going vessels, pleasure-yachts, etc.,—such of them as could be made useful in war, we speak of as our Reserves. Swift merchant vessels,—those that could overtake most of the ships afloat and get away when necessary from vessels of superior strength,—properly manned and armed, would be very useful in war. The Navy Department keeps itself thoroughly informed as to the military values of all the ships that fly the American flag, or belong to American citizens; and it has been making strenuous efforts for some years, past, with some success, to get money to provide outfits for such ships. Much, however, remains to be done in this direction. We should have guns, ammunition, and torpedoes for all available vessels.

If we but had, as other nations have, a full supply of arms and ammunition for all possible reserve ships, we could, in case of war, safely call our Reserve Navy superior to that of any other country, except Great Britain. Should we come to war with the latter Power, both parties would seek to possess the great lakes; and unless the British should be able to send ships through the St. Lawrence Canal,—which

would at once be a question,—the battles would be fought out between merchant-vessels. We have on the lakes only one naval ship, the "Michigan," which is old and of low grade; and the British have merely its estimated equivalent. By treaty arrangement long subsisting, neither country can increase its naval force in those waters. There is now and then a demand in certain quarters for the annulment of this agreement. The writer would say, "Let it stand!" It tends to keep the peace; or rather, its abrogation, and the arming on the lakes that would follow, would tend to a breach of the peace. Furthermore, the arrangement as it stands is to our interest. A careful study of the situation shows that, if only we had, as Great Britain certainly has, arms and equipments ready for all available vessels, the advantage would be overwhelmingly with us on every lake, excepting Lake Ontario,—as to which there may be reason for doubt.

If we should know that we were always to be at peace with all the naval Powers of the world, it would be quite easy to say how large our Navy should be. We should, in that case, want only such cruising vessels and gun-boats as would be needed to look after our interests in countries where revolutions are frequent, and local laws and the rights of foreigners are not always regarded. But the millennium is not yet; so some comparisons of naval strength have been deemed necessary.

We may now inquire what interests we have that might possibly need the protection of a navy, and what facilities our conditions, geographical and commercial, would afford to an enemy for an attack by water. We may then form some opinion as to (2) how much the United States Navy should be increased.

The United States have over 3,000 miles of sea-coast, excluding Alaska. We have more population and more wealth in cities by the sea than perhaps all the other nations of the world together. The statistics of our coast-wise commerce are wanting; but our Commissioner of Naviga-

tion estimates that we have more water-borne traffic than even the United Kingdom of Great Britain. It is often said that others do our carrying, and that we have but a small merchant marine. Excluding our shipping upon the great lakes and Western rivers, the registered, enrolled, and licensed American vessels, carrying to and from our Atlantic, Gulf, and Pacific coasts,—some to foreign and the rest to home ports, and all subject to attack by foreign ships of war,—foot up a tonnage of 3,104,000 tons; while, according to the latest available figures, Russia, Germany, and Italy have an aggregate tonnage, coastwise-going ships included, of only 2,768,000 tons. If we now count in our vessels on the great lakes, we have a total American tonnage,—Western-river commerce still excluded—of 4,428,000 tons, which is far more than the total mercantile marine of Russia, Germany, Italy, Japan, and Spain; and excluding Great Britain and the United States, these five nations are, as we have seen, the greatest naval Powers of the world. A naval war, therefore, would be a serious matter for our country, and particularly because, the United States having refused long ago, at the Paris Conference, to consent to the abolition of privateering, the right to issue letters-of-marque and reprisal to private vessels to prey on an enemy's commerce still exists as against us in favor of all the other Powers of the world. What would become of our foreign carrying trade and our vast coast-wise traffic, if an enemy should commission a lot of swift vessels to hover along our coasts from Machias to Galveston, or from San Diego to Puget Sound?

As to our cities by the sea, it should be remembered that they are now, for the most part, in no better condition to be defended against attacks by water than they were during the Civil War; and that the harbor defenses of that day were not equal to the ships and guns then brought against them. The war-ships and guns of to-day are infinitely better than those of 1861-5.

It thus appears: First, that we have more property on shore assailable from the water than any other nation; second, that we have more property (commerce) afloat and assailable by navies than any other nation; and third, that, except Great Britain, we have more merchant ships afloat on the ocean (great lakes included) than the five greatest naval Powers of the world combined.

Taking these conclusions as postulates, and considering them in connection with the tables we have examined, it seems to follow that our navy should be further increased, unless the opponents of such increase can establish the single proposition that we are never to have any more wars with naval Powers. They cannot admit the possibility of war, and contend that we can prepare for it when in sight. Many nations act unwisely; but none would be so Quixotic as to give us notice and wait until we had prepared for a contest; and a modern naval war would be over in less time than it takes to build a single gun boat.

The whole argument against an increase of the Navy must therefore rest upon the impossibility of war; and it is usually put thus: No nation would dare to attack us, the United States of America; and if we shall, as we mean to do, cultivate peace and honest commerce with all the peoples of the earth, we shall never have cause to initiate war.

This reasoning assumes, among other things, that all nations are wise and prudent. If we should concede—what cannot be established—that the rulers of nations are always prudent, and that individually they always estimate wisely their own relative military strength, it must nevertheless be admitted that public sentiment, which, after all, dominates now and then even kings and emperors, is not always so wise as it should be.

It is not a great many years since the people of Portugal were demanding a declaration of war against Great Britain; and it was for a time doubtful whether the King could resist the clamor. It was public sentiment in France that brought on the Franco-German war. The French Emperor was loath

to begin hostilities; but the campaigns of Napoleon I over the Rhine were in the air. Napoleon III issued his proclamation; and in a few weeks he was a prisoner of war at Sedan. King George of Greece certainly knew—from the standpoint of prudence and wisdom, which we are assuming for rulers—that Greece could not whip Turkey. Perhaps he hoped for the intervention that never came, or came too late. But, however that was, the spirit of Salamis and Thermopylae dominated the Greeks; and, desperate as were the chances of war, the chances that the King's crown could survive a revolution were more desperate still. War was declared; and we know the result.

To come nearer home. No one can affirm with certainty, what is to be the outcome of the Cuban revolution. There is much evidence to show: That the Spanish populace are as thoroughly determined not to give up Cuba as were the Greeks recently to succor their fellow-Christians in Crete; that to acknowledge its inability to overcome the rebellion unaided would endanger the present dynasty; and that, as a last resort, the Spanish government, to save itself, would declare war against us, preferring to lose the island—if not all—only after a brave struggle with the hated Americans. In Spain, too, as in Greece, there would be the hope of intervention.

If the Franco-German and the Greco-Turkish war—instances which might be indefinitely multiplied—show the power of the people even in monarchical countries, what shall we say of the influence of public sentiment in our own country; and who shall aver that we can always count on conservatism in our future councils of state? That we are sensitive, high-spirited, and warlike, goes without saying; and it would be an interesting task to show, from past history, that our people, more than any other, are controlled by sentiment. One instance, however, will suffice. Where was the conservatism or prudence of the Anti-Slavery party or the Secessionists—those who created the conditions that led to our Civil War? It was non-existent on either side.

The characteristics that brought on and carried on that great struggle still exist. The pride of our people in themselves, North and South, was intensified by that conflict. It is not declamation, but the plain statement of a patent fact, to say that the people, North and South, now that they are thoroughly united under homogeneous institutions, feel a common pride in the courage displayed on both sides in the Civil War, and that an opportunity to make common cause against a public enemy would meet a widespread welcome.

Public sentiment in America never was so united; nor was it ever prouder or more sensitive than it is to-day. A spark can kindle a conflagration among us at any moment. Look at the unanimity with which Congress and the people sustained President Cleveland's Venezuela Message; and at the utterances of the people, the press, and the United States Senate on the Cuban question. The House, too, no doubt, would have adopted the resolution recognizing the belligerent rights of the Cubans, if it had been able to reach a vote. On the Cuban question, administrations—upon which so much of responsibility rests—have so far been, and are likely hereafter to be, more conservative than Congress. But who is there to affirm that Presidents will always resist the demands made upon them for warlike measures? President Madison naturally hesitated in 1812 to declare war against Great Britain. The odds were fearful; but the war party compelled him, just as it compelled Napoleon III in 1870, King George of Greece in 1897, and as it might compel Spain in the near future, to a declaration of war.

And here it may be as well to answer the argument that a larger navy would only be a greater inducement to war. "Jingoism" is not a matter of calculation, but of sentiment. Warlike Congressmen, as the "Congressional Record" shows, are not necessarily friends of an increased Navy. And so of our people. Prudence with them is undoubtedly "a rascally virtue." Adverting again to our Civil War, it was only a woful minority on either side that stopped to count the cost when that great struggle was approaching. So it certainly

would be if a foreign nation should give us cause for war. Preparedness on our part will simply suggest to other nations that they must not give us cause of offence.

It is further to be considered that in the always varying relations of states, and of their citizens and subjects toward one another, new questions of dispute are constantly arising. In case of a naval war between two or more great naval Powers, difficulties as well as opportunities for us will almost certainly come. We have trade relations with all the world. We furnish many articles which are absolutely contraband of war; and others, as coal and provisions, which are sometimes contraband and sometimes not. A blockade may be sometimes effective and justify confiscation of vessel and cargo, and sometimes not. We should always be able to protect our commerce instantly, and see that such questions are not decided wrongfully to our detriment. We cannot afford to be in the condition we occupied during the Napoleonic era, when Great Britain and France, under orders in council and the Berlin and Milan decrees, warred on our commerce until we were compelled at last, in sheer desperation, to fight first the one and then the other. We saved our honor by the war of 1812; but irreparable injury had been done us before we took up arms to prevent it. The prime cause of offence to France and England during their wars was, that much of the commerce that each was seeking to destroy sought refuge under our flag. That is precisely what would happen again under like circumstances. A great opportunity would be ours to get back a large share of the carrying trade of the world,—a contingency dependent only upon our ability to protect the commerce that would seek the shelter of our flag. To realize from such conditions, we shall need only such a navy as will be, beyond question, sufficient to turn the scales of battle, if we should be forced into the contest. With such a navy, our rights would be promptly respected wherever our flag appeared.

This article would not be complete without glancing at what is possible, though it is hoped not probable,—a con-

shut our eyes to what other nations are doing; that no human prescience can foretell the circumstances or the quarters from which wars may come; that we have more ships that need protection than any nation but one; that our ports, our shipping, and our ever-widening commerce are subject to attack; and that, with modern ships, naval wars will come and go almost like the lightning's flash. We should be able to command our peace and protect our rights at all times.

Certainly it would not be too much to add, say, six more battle-ships to our Atlantic fleet and half as many to the Pacific. And seventy-five torpedo-boats would not be an undue addition to this class of our vessels. These, it is believed, should be built during a programme of some five years,—two battle-ships and about fifteen torpedo-boats to be laid down each year.

It is always advantageous to lay down a naval building programme extending through a series of years. The manufacture of ships, engines, guns, torpedoes, requires the highest class of skilled laborers. And every consideration of economy and efficiency requires that, once assembled, such laborers should be kept together. Germany—my recollection is—once had a ship-building programme extending through ten years; but Great Britain has maintained among nations the most continuous and orderly system, and so has attained the greatest relative economy and efficiency in the construction of ships.

Let me say, in conclusion, that all classes are interested in maintaining the efficiency of our Navy,—above all, farmers. Their crops form the bulk of our exports; their surplus must seek, and must be protected while it seeks, the markets of the world.

TABLES ACCOMPANYING MR. HERBERT'S ARTICLE, "A PLEA FOR THE NAVY."

TABLE NO. I.

CLASS OF VESSEL	Great Britain	France	Russia	Italy	United States	Germany	Japan*	Spain
Battle-ships.....	14 48 62	6 30 36	7 16 23	2 13 15	5 6 11	2 11 13	1 4 5	.. 3 3
Armored Cruisers.....	13 13 26	2 6 8	2 8 10	4 1 5	.. 2 2	1 .. 1	.. 4 4	2 9 11
Coast and Harbor Defence.	14 14 28	16 16 32	11 15 26	.. .. ..	.. 20 20	2 17 19	1 1 2	.. 1 1
Protected Cruisers.....	14 105 119	7 34 41	.. 13 13	3 16 19	.. 13 13	5 14 19	4 11 15	.. 5 5
Gun-boats and lightly protected Cruisers.....	2 63 65	11 41 52	24 24 48	.. 9 9	6 14 20	2 14 16	14 14 28	.. 19 19†
Despatch-boat.....	2 2 4	1 1 2	.. .. ..	6 6 12	.. 1 1	.. 3 3	.. .. ..	2 2 4
Torpedo Gun-boats.....	.. 31 31	5 15 20	1 8 9	2 16 17	.. .. ..	2 10 12	.. 6 6	3 10 13
Torpedo-boats and Destroyers.....	.. .. 238	.. .. 228	.. .. 204	.. .. 168	14 8 22	.. .. 124	.. .. 48	.. .. 27

*Since this table was compiled, Japan has ordered one battle-ship and projected another.

†Also 64 Cuban Gun-boats of 200 to 300 tons displacement.

TABLE NO. 2.

NATION.	BATTLE-SHIPS		ARMORED CRUISERS		CRUISING VESSELS		Total Displacement	TORPEDO-BOATS AND DESTROYERS		Ratio of battle-ship displacement to torpedo-boat displacement	Ratio of total displacement to torpedo-boat displacement	
	Built and Building	Disp't.	Built and Building	Disp't.	Built and Building	Disp't.		Total Displacement	Built and Building			Disp't.
Great Britain	62	678,279	13	86,260	217	650,738	1,415,277	238	28,651	24	49	
France.....	36	337,429	8	63,540	103	243,568	644,537	228	16,583	20	39	
Russia.....	23	207,897	10	77,472	46	62,897	348,266	204	12,929	16	27	
Italy.....	15	162,529	5	25,978	51	82,532	271,039	168	11,246	14	24	
United States	11	112,896	2	17,471	33	86,398	216,765	22	3,075	37	70	
Germany....	13	103,593	1	10,650	50	75,818	190,061	124	14,550	7	13	
Japan.....	5	59,600	4	9,309	35	61,168	130,057	48	3,051	20	43	
Spain.....	3	24,455	11	65,220	39	52,607	142,282	27	3,739	7	38	

TABLE NO. 3

Class of Vessel.	Particulars.	United States	Germany	Italy
Battle-ships.....	Building.....	5	2	2
	Built.....	6	11	13
	Total number.....	11	13	15
	Total displacement.....	112896	103593	162529
	Total horse-power.....	110155	98174	190681
	Average speed in knots..	17	16	18
	Guns, main battery.....	182	270	241
	Muzzle-energy, foot-tons	1924466	1492070	2181864
Armored Cruisers..	Building.....	.. ..	1	4
	Built.....	2	.. ..	1
	Total number.....	2	1	5
	Total displacement.....	17471	10650	25978
	Total horse-power.....	36170	14000	33293
	Average speed in knots..	21.5	19	15
	Guns, main battery.....	38	26	74
	Muzzle-energy, foot-tons	148562	123960	162370
Coast and Harbor Defence.....	Building.....	.. ..	2	.. ..
	Built.....	20	17	.. ..
	Total number.....	20	19	.. ..
	Total displacement.....	53759	40399	.. ..
	Total horse-power.....	26066	45549	.. ..
	Average speed in knots..	10	12	.. ..
	Guns, main battery.....	56	123	.. ..
	Muzzle-energy, foot-tons	604470	436906	.. ..
Cruising Vessels Gun-boats.....	Building.....	6	7	3
	Built.....	27	31	31
	Total number.....	33	38	34
	Total displacement.....	86398	71512	68303
	Total horse-power.....	182997	127562	143728
	Average speed in knots..	16	14	15.6
	Guns, main battery.....	385	270	202
	Muzzle-energy, foot-tons	705602	434942	519493
Torpedo Gun-boats	Building.....	.. ..	.. ..	.. ..
	Built.....	.. ..	.. ..	.. ..
	Total number.....	.. ..	12	17
	Total displacement.....	.. ..	4306	14229
Torpedo-boats and Destroyers.....	Building.....	14
	Built.....	8
	Total number.....	22	124	168
	Total displacement.....	3076	14560	11246

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**The Future in Relation to American Naval Power. Captain
A. T. Mahan.**

That the United States navy should within the last dozen years have been almost wholly recast upon more modern lines is not, in itself alone, a fact that should cause comment, or give rise to questions about its future career or sphere of action. If this country needs, or shall ever need, a navy at all, indisputably in 1883 the hour had come when the time-worn hulks of that day, mostly the honored but superannuated survivors of the civil war should drop out of the ranks, submit to well-earned retirement or inevitable dissolution, and allow their places to be taken by other vessels, capable of performing the duties to which they themselves were no longer adequate.

It is therefore unlikely that there underlay this recreation of the navy—for such in truth it was—any more recon-dite cause than the urgent necessity of possessing tools wholly fit for the work which war-ships are called upon to do. The thing had to be done, if the national fleet was to be other than an impotent parody of naval force, a costly effigy of straw. But concurrently with the process of rebuilding, there has been concentrated upon the development of the new service a degree of attention greater than can be attributed even to the voracious curiosity of this age of news-mongering and of interviewers. This attention is in some quarters undisguisedly reluctant and hostile, in others not only friendly but expectant, in both cases betraying a latent impression that there is, between the appearance of the new-comer and the era upon which we are now entering, something in common. If such coincidence there be, however, it is indicative not of a deliberate purpose, but of a commencing change of conditions, economical and political,

throughout the world, with which sea power, in the broad sense of the phrase, will be closely associated; not, indeed, as the cause, not even chiefly as a result, but rather as the leading characteristic of activities which shall cease to be mainly internal, and shall occupy themselves with the wider interests that concern the relations of states to the world at large. And it is just at this point that the opposing lines of feeling divide. Those who hold that our political interests are confined to matters within our own borders, and are unwilling to admit that circumstances may in the future compel us to political action without them, look with dislike and suspicion upon the growth of a body whose very existence indicates that nations have international duties as well as international rights, and that international complications will arise from which we can no more escape than the states which have preceded us in history, or those contemporary with us; while others, looking upon the conditions and signs of these times, and the extra-territorial activities in which foreign states have so restlessly and widely embarked, feel that the nation may, however greatly against its wish, become involved in controversies not unlike those which in the middle of the century caused very serious friction, but which the generation that saw the century open would have thought too remote for its concern, and certainly wholly beyond its power to influence.

Religious creeds, dealing with eternal verities, may be susceptible of a certain permanency of statement; yet even here we in this day have witnessed the embarrassment of some religious bodies, arising from a traditional adherence to merely human formulas, which reflect views of the truth as it appeared to the men who framed them in the distant past; but political creeds, dealing as they do chiefly with the transient and shifting conditions of a world which is continually passing away, can claim no fixity of allegiance, except where they express, not the policy of a day, but the unchanging dictates of righteousness. And inasmuch as the path of ideal righteousness is not always plain nor always

practicable; as expediency, policy, the choice of the lesser evil, must at times control; as nations, like men, will at times differ honestly, but irreconcilably, on questions of right—there do arise disputes where agreement cannot be reached, and where the appeal must be made to force, that final factor which underlies the security of civil society even more than it affects the relations of states. The well-balanced faculties of Washington, indeed, saw this in his day with absolute clearness. Jefferson either would not or could not. That there should be no navy was a cardinal prepossession of his political thought, born of an exaggerated fear of organized military force as a political factor. Though possessed with a passion for annexation which dominated much of his political action, he laid down as the limit of the country's geographical expansion the point beyond which it would entail the maintenance of a navy. Yet fate, ironical here as elsewhere in his administration, compelled the recognition that, unless a policy of total seclusion is adopted—if even then—it is not necessary to acquire territory beyond the sea in order to undergo serious international complications, which could much more easily have been avoided had there been an imposing armed shipping to throw into the scale of the nation's argument and compel the adversary to recognize the impolicy, as well as what the United States then claimed to be the wrongfulness, of his course.

The difference of conditions between the United States of to-day and of the beginning of this century illustrates aptly how necessary it is to avoid implicit acceptance of precedents, crystallized into maxims, and to seek for the quickening principle which justified, wholly or in part, the policy of one generation, but whose application may insure a very different course of action in a succeeding age. When the century opened, the United States was not only a continental power, as she now is, but she was one of several, of nearly equal strength as far as North America was concerned, with all whom she had differences arising out of conflicting interests, and with whom, moreover, she was in

direct geographical contact—a condition which has been usually recognized as entailing peculiar proneness to political friction; for, while the interests of two nations may clash in quarters of the world remote from either, there is both greater frequency and greater bitterness when matters of dispute exist near at home, and especially along an artificial boundary, where the inhabitants of each are directly in contact with the causes of the irritation. It was therefore the natural and proper aim of the government of that day to abolish the sources of difficulty, by bringing all the territory in question under our own control, if it could be done by fair means. We consequently entered upon a course of action precisely such as a European continental state would have followed under like circumstances. In order to get possession of the territory in which our interests were involved, we bargained and manoeuvred and threatened; and, although Jefferson's methods were peaceful enough, few will be inclined to claim that they were marked by excess of scrupulousness, or even of adherence to his own political convictions. From the highly moral stand-point, the acquisition of Louisiana under the actual conditions—being the purchase from a government which had no right to sell in defiance of the remonstrance addressed to us by the power who had ceded the territory upon the express condition that it should not so be sold, but which was too weak to enforce its just reclamation against both Napoleon and ourselves—reduces itself pretty much to a choice between overreaching and violence, as the less repulsive means of compassing an end in itself both desirable and proper; nor does the attempt, by strained construction, to wrest West Florida into the bargain give a higher tone to the transaction. As a matter of policy, however, there is no doubt that our government was most wise; and the transfer, as well as the incorporation, of the territory was facilitated by the meagreness of the population that went with the soil. With all our love of freedom, it is not likely that many qualms were felt as to the political inclinations of the people concerning their

transfer of allegiance. In questions of great import to nations or to the world, the wishes or interests or technical rights of minorities must yield, and there is not necessarily any more injustice in this than in their yielding to a majority at the polls.

While the need of continental expansion pressed thus heavily upon the statesman of Jefferson's era, questions relating to more distant interests were very properly postponed. At the time that matters of such immediate importance were pending, to enter willingly upon the consideration of subjects our concern in which was more remote, either in time or place, would have entailed a dissemination of attention and of power that is as greatly to be deprecated in statesmanship as it is in the operations of war. Still, while the government of the day would gladly have avoided such complications, it found, as have the statesmen of all times, that if external interests exist, whatsoever their character, they cannot be ignored, nor can the measures which prudence dictates for their protection be with safety neglected. Without political ambitions outside the continent, the commercial enterprise of the people brought our interests into violent antagonism with clear, unmistakable, and vital interests of foreign belligerent states; for we shall sorely misread the lessons of 1812, and of the events which led to it, if we fail to see that the questions in dispute involved issues more immediately vital to Great Britain, in her then desperate struggle, than they were to ourselves, and that the great majority of her statesmen and people, of both parties, so regarded them. The attempt of our government to temporize with the difficulty, to overcome violence by means of peaceable coercion, instead of meeting it by the creation of a naval force so strong as to be a factor of consideration in the international situation, led us into an avoidable war.

The conditions which now constitute the political situation of the United States, relatively to the world at large, are fundamentally different than those that obtained at the beginning of the century. It is not a mere question of greater growth,

or bigger size. It is not only that we are larger, stronger, have, as it were, reached our majority, and are able to go out into the world. That alone would be a difference of degree, not of kind. The great difference between the past and the present is that we then, as regards close contact with the power of the chief nations of the world, were really in a state of political isolation which no longer exists. This arose from our geographical position—re-enforced by the slowness and uncertainty of the existing means of intercommunication—and yet more from the grave preoccupation of foreign statesmen with questions of unprecedented and ominous importance upon the continent of Europe. A policy of isolation was for us then—though even then only partially—practicable. It was also expedient, because we were weak, and in order to allow the individuality of the nation time to accentuate itself. Save the questions connected with the navigation of the Mississippi, collision with other peoples was only likely to arise and actually did arise, from going beyond our own borders in search of trade. The reasons now evoked by some against our political action outside our own borders might then with equal appositeness have been used against our commercial enterprises. Let us stay at home, or we shall get into trouble. Jefferson, in truth, averse in principle to commerce as to war, was happily logical in his embargo system. It not only punished the foreigner and diminished the danger of international complications, but it kept our own ships out of harm's way; and if it did destroy trade, and cause the grass to grow in the streets of New York, the incident, if inconvenient, had its compensations, by repressing hazardous external activities.

Few, of course, would now look with composure upon a policy, whatever its ground, which contemplated the peaceable seclusion of this nation from its principal lines of commerce. In 1807, however, a great party accepted the alternative rather than fight, or even than create a force which might entail war, although it would more probably have prevented it. But would it be more prudent now to ignore the fact

that we are no longer—however much we may regret it—in a position of insignificance or isolation, political or geographical, in any way resembling the times of Jefferson, and that from the changed conditions may result to us a dilemma similar to that which confronted him and his supporters? Not only have we grown—that is a detail—but the face of the world is changed, economically and politically. The sea, now as always the great means of communication between nations, is traversed with a rapidity and a certainty that have minimized distances. Events which under former conditions would have been distant and of small concern now happen at our doors and closely affect us. Proximity, as has been noted, is a fruitful source of political friction, but proximity is the characteristic of the age. The world has grown smaller. Positions formerly distant have become to us of vital importance from their nearness. But, while distances have shortened, they remain for us water distances, and, however short, for political influence they must in the last resort be traversed by a navy, the only instrument by which the nation can, when emergencies arise, project its power beyond its own shore-line.

Whatever seeming justification, therefore, there may have been in the transient conditions of his own day for Jefferson's dictum concerning a navy, rested upon a state of things that no longer obtains, and even then soon passed away. The war of 1812 demonstrated the usefulness of a navy—not indeed, by the admirable but utterly unavailing single-ship victories that illustrated its course, but by the prostration into which our seaboard and external communications fell, through the lack of a navy at all proportionate to the country's needs and exposure. The navy doubtless reaped honor in that brilliant sea-struggle, but the honor was its own alone; only discredit accrued to statesmen who, with such men to serve them, none the less left the country open to the humiliation of its harried coasts and blasted commerce. Never was there a more lustrous example of what Jomini calls "the sterile glory of fighting battles merely to win them." Except for

the prestige which at last awaked the country to the high efficiency of the petty force we called our navy, and showed what the sea might be to us, never was blood more uselessly spilled than in the frigate and sloop actions of that day. They presented no analogy to the outpost and reconnoissance fighting, to the detached services, that are not only inevitable, but invaluable in maintaining the morale of a military organization in campaign. They were simply scattered efforts, without relation either one to another or to any main body whatsoever capable of affecting seriously the issues of war, or, indeed, to any plan of operations worthy of the name.

Not very long after the war of 1812, within the space of two administrations, there came another incident, epoch-making in the history of our external policy, and of vital bearing on the navy, in the enunciation of the Monroe doctrine. That pronouncement has at times been curiously warped from its original scope and purpose. In its name have been put forth theories so much at odds with the relations of states, as hitherto understood, that, if they be seriously maintained, it is desirable in the interests of exact definition that their supporters advance some other name for them. It is not necessary to attribute finality to the Monroe doctrine, any more than to any other political dogma, in order to deprecate the application of the phrase to propositions that override or transcend it. We should beware of being misled by names, and especially where such error may induce a popular belief that a foreign state is wilfully outraging a principle to the defence of which the country is committed. We have been committed to the Monroe doctrine itself, not perhaps by any such formal assumption of obligations as cannot be evaded, but by certain precedents, and by a general attitude, upon the whole consistently maintained, from which we could not silently recede without risk of national mortification. If seriously challenged, as in Mexico by the third Napoleon, we should hardly decline to emulate the sentiments so nobly expressed by the British government, when, in response to the emperors of Russia and France, it declined to

abandon the struggling Spanish patriots to the government set over them by Napoleon: "To Spain his Majesty is not bound by any formal instrument; but his Majesty has, in the face of the world, contracted with that nation engagements not less sacred, and not less binding upon his Majesty's mind, than the most solemn treaties." We may also have to accent certain corollaries which may appear naturally to result from the Monroe doctrine, but we are by no means committed to some propositions which have lately been tallied with its name. Those propositions possibly embody a sound policy, more applicable to present conditions than the Monroe doctrine itself, and therefore destined to succeed it; but they are not the same thing. There is, however, something in common between it and them. Reduced to its barest statement, and stripped of all deductions, natural or forced, the Monroe doctrine, if it were not a mere political abstraction, formulated an idea to which in the last resort effect could only be given through the instrumentality of a navy; for the gist of it, the kernel of the truth, was that the country had at that time distant interests on the land, political interests of a high order in the destiny of a foreign territory, of which a distinguishing characteristic was that they could only be assured by sea.

Like most stages in a nation's progress, the Monroe doctrine, though elicited by a particular political incident, was not an isolated step unrelated to the past but a development. It had its antecedents in feelings, which arose before our war of independence, and which in 1778, though we were then in deadly need of the French alliance, found expression in the stipulation that France should not attempt to regain Canada. Even then, and also in 1783, the same jealousy did not extend to the Floridas, which at the latter date were ceded by Great Britain to Spain; and we expressly acquiesced in the conquest of the British West India Islands by our allies. From then to 1815 no remonstrance was made against the transfer of territories in the West Indies and Carribbean Sea from one belligerent to another—an indifference which would scarce-

ly be shown at the present time, even though the position immediately involved were intrinsically of trivial importance; for the question of stake would be one of principle, of consequences, far-reaching as Hampden's tribute of ship-money.

It is beyond the professional province of a naval officer to inquire how far the Monroe doctrine would itself logically carry us, or how far it may be, now or hereafter, developed by the recognition and statement of further national interests, thereby formulating another and wider view of the necessary range of our political influence. It is sufficient to quote its enunciation as a fact, and to note that it was the expression of a great national interest, not merely of a popular sympathy with South American revolutionists; for, had it been the latter, it would doubtless have proved as inoperative and evanescent as declarations arising from such emotions commonly are. We have from generation to generation been much stirred by the sufferings of Greeks or Bulgarians or Armenians at the hands of Turkey; but, not being ourselves injuriously affected, our feelings have not passed into acts, and for that very reason have been ephemeral. No more than other nations are we exempt from the profound truth enunciated by Washington—seared into his own consciousness by the bitter futilities of the French alliance in 1778 and the following years, and by the extravagant demands based upon it by the Directory during his Presidential term—that it is absurd to expect governments to act upon disinterested motives. It is not as an utterance of passing concern, benevolent or selfish, but because it voiced an enduring principle of necessary self-interest, that the Monroe doctrine has retained its vitality, and has been so easily made to do duty as the expression of intuitive national sensitiveness to occurrences of various kinds in regions beyond the sea. At its christening the principle was directed against an apprehended intervention in American affairs which depended not upon actual European concern in the territory involved, but upon a purely political arrangement between certain great powers, itself the result of ideas

at the time moribund. In its first application, therefore, it was a confession that danger of European complications did exist, under conditions far less provocative of real European interest than those which now obtain and are continually growing. Its subsequent applications have been many and various, and the incidents giving rise to them have been increasingly important, culminating up to the present in the growth of the United States to be a great Pacific power, and her probable dependence in the near future upon an Isthmian canal for the freest and most copious intercourse between her two ocean seaboard. In the elasticity and flexibleness with which the dogma has thus accommodated itself to varying conditions, rather than in the strict wording of the original statement, is to be seen the essential characteristic of a living principle—the recognition, namely, that not merely the interests of individual citizens, but the interests of the United States as a nation, are bound up with regions beyond the sea, not part of our own political domain, in which we may, therefore, under some imaginable circumstances, be forced to take action.

It is important to recognize this, for it will help clear away the error from a somewhat misleading statement frequently made—that the United States needs a navy for defence only, adding often, explanatorily, for the defence of our own coasts. Now in a certain sense we all want a navy for defence only. It is to be hoped that the United States will never seek war except for the defence of her rights, her obligations, or her necessary interests. In that sense our policy may always be defensive only, although it may compel us at times to steps justified rather by expediency—the choice of the lesser evil—than by incontrovertible right. But if we have interests beyond sea which a navy may have to protect, it plainly follows that the navy has more to do, even in war, than to defend the coast, and it must be added as a received military axiom that war, however defensive in moral character, must be waged aggressively if it is to hope for success.

For national security, the correlative of a national principle firmly held and distinctly avowed is not only the will but the power to enforce it. The clear expression of national purpose, accompanied by evident and adequate means to carry it into effect, is the surest safeguard against war, provided always that the national contention is maintained with a candid and courteous consideration of the rights and susceptibilities of other states. On the other hand, no condition is more hazardous than that of a dormant popular feeling, liable to be roused into action by a moment of passion, such as that which swept over the North when the flag was fired upon at Sumter, but behind which lies no organized power for action. It is on the score of due preparation for such an ultimate contingency that nations, and especially free nations, are most often deficient. Yet if wanting in definiteness of foresight and persistency of action, owing to the inevitable frequency of change in the governments that represent them, democracies seem in compensation to be gifted with an instinct, the result perhaps of the free and rapid interchange of thought by which they are characterized, that intuitively and unconsciously assimilates political truths, and prepares in part for political action before the time for action has come. That the mass of United States citizens do not understandingly realize that the nation has vital political interests beyond the sea is probably true; still more likely is it that they are not tracing any connection between them and the reconstruction of the navy. Yet the interests exist, and the navy is growing, and in the latter fact is the best surety that no breach of peace will ensue from the maintenance of the former.

It is, then, not the indication of a formal political purpose, far less of anything like a threat, that is, from my point of view, to be recognized in the recent development of the navy. Nations do not, as a rule, move with the foresight and the fixed plan which distinguish a very few individuals of the human race. They do not practise on the pistol-range before sending a challenge; if they did, wars

would be fewer, as is proved by the present long-continued armed peace in Europe. Gradually and imperceptibly the popular feeling, which underlies most lasting national movements, is aroused and swayed by incidents, often trivial, but of the same general type, whose recurrence gradually moulds public opinion and evokes national action, until at last there issues that settled public conviction which alone, in a free state, deserves the name of national policy. What the origin of those particular events whose interaction establishes a strong political current in a particular direction it is perhaps unprofitable to inquire. Some will see in the chain of cause and effect only a chapter of accidents, presenting an interesting philosophical study, and nothing more; others, equally persuaded that nations do not effectively shape their mission in the world, will find in them the ordering of a Divine ruler, who does not permit the individual or the nation to escape its due share of the world's burdens. But, however, explained, it is a common experience of history that in the gradual ripening of events there comes often suddenly and unexpectedly the emergency, the call for action to maintain the nation's contention. That there is an increased disposition on the part of civilized countries to deal with such cases by ordinary diplomatic discussion and mutual concession can be gratefully acknowledged; but that such dispositions are not always sufficient, to reach a peaceable solution is equally an indisputable teaching of the recent past. Popular emotion, once fairly roused, sweeps away the barriers of calm deliberation, and is deaf to the voice of reason. That the consideration of relative power enters for much in the diplomatic settlement of international difficulties is also certain, just as that it goes for much in the ordering of individual careers. "Can," as well as "will," plays a large share in the decisions of life.

Like each man and woman, no state lives to itself alone in a political seclusion resembling the physical isolation which so long was the ideal of China and Japan. All, whether they will or no, are members of a community,

larger or smaller, and more and more those of the European family, to which we racially belong, are touching each other throughout the world, with consequent friction of varying degree. That the greater rapidity of communication afforded by steam has wrought, in the influence of sea power over the face of the globe, an extension that is multiplying the points of contact and emphasizing the importance of navies is a fact the intelligent appreciation of which is daily more and more manifest in the periodical literature of Europe, and is further shown by the growing stress laid upon that arm of military strength by foreign governments; while the mutual preparation of the armies on the European continent, and the fairly settled territorial conditions, make each state yearly more wary of initiating a contest, and thus entail a political quiescence there, except in the internal affairs of each country. Their field of external action is now the world, and it is hardly doubtful that their struggle, unaccompanied as yet by actual clash of arms, is even under that condition drawing nearer to ourselves. Coincidentally with our own extension to the Pacific Ocean, which for so long had a good international claim to its name, that sea has become more and more the scene of political development, of commercial activities and rivalries, in which all the great powers, ourselves included, have a share. Through these causes Central and Caribbean America, now intrinsically unimportant, are in turn brought into great prominence, as constituting the gateway between the Atlantic and Pacific when the Isthmian canal shall have been made, and as guarding the approaches to it. The appearance of Japan as a great ambitious state, resting on solid political and military foundations, but which has scarcely yet reached a condition of equilibrium in international standing, has fairly startled the world; and it is a striking illustration of the somewhat sudden nearness and unforeseen relations into which modern states are brought that the Hawaiian Islands, so interesting from the international point of view to the

countries of European civilization, are largely occupied by Japanese and Chinese.

In all these questions we have a stake, reluctantly it may be, but necessarily, for our evident interests are involved, in some instances directly, in others by very probable implication. Whether it be optimistic or pessimistic so to think, the opinion that we can indefinitely keep clear of embarrassing problems is hardly tenable; while war between two foreign states, which under the uncertainties of the international situation throughout the world may at any time break out, will greatly increase the occasions of possible collision with the belligerent countries, and the consequent perplexities of our statesmen seeking to avoid entanglement and maintain neutrality.

Although peace is not only the avowed but for the most part the actual desire of European governments, they profess no such aversion to distant political enterprises and colonial acquisitions as we by tradition have learned to do. On the contrary, their committal to such divergent enlargements of the national activities and influence is one of the most pregnant facts of our time, the more so that their course is marked in the case of each state by a persistence of the same national traits that characterized the great era of colonization, which followed the termination of the religious wars in Europe, and led to the world-wide contests of the eighteenth century. In one nation the action is mainly political—that of a government pushed by long-standing tradition and by its passion of administration, to extend the sphere of its operations, so as to acquire a greater field in which to organize and dominate, somewhat regardless of economical advantage. In another the impulse comes from the restless, ubiquitous energy of the individual citizens, singly or in companies, moved primarily by the desire of gain, but carrying ever with them, subordinate only to the commercial aim, the irresistible tendency of the race to rule as well as to trade, and dragging the home government to recognize and assume the consequences of their enterprise.

Yet again there is the movement, whose motive is throughout mainly private and mercantile, in which the individual seeks wealth only, with little or no political ambition, and where the government intervenes chiefly that it may retain control of its subjects in regions where but for such intervention they would become estranged from it. But, however diverse the modes of operation, all have a common characteristic, in that they bear the stamp of the national genius—a proof that the various impulses are not artificial, but natural, and that they will therefore continue until an adjustment is reached.

What the process will be, and what the conclusion, it is impossible to foresee; but that friction has at times been very great, and matters dangerously near passing from the communications of cabinets to the tempers of the peoples, is sufficiently known. If, on the one hand, some look upon this as a lesson to us to keep clear of similar adventures, on the other hand it gives a warning that not only do causes of offence exist which may at an unforeseen moment result in a rupture extending to many parts of the world, but also that there is a spirit abroad which may yet challenge our claim to exclude its action and interference in any quarter, unless it finds us there prepared in adequate strength to forbid it, or to exercise our own. More and more civilized man is needing and seeking ground to occupy, room over which to expand and in which to live. Like all natural forces, the impulse takes the direction of least resistance, but when in its course it comes upon some region rich in possibilities, but unfruitful through the incapacity or negligence of those who dwell therein, the incompetent race or system will go down, as the inferior race has ever fallen back and disappeared before the persistent impact of the superior. The recent and familiar instance of Egypt is entirely in point. The continuance of the existing system—if it can be called such—had become impossible, not because of the native Egyptians, who had endured the like of ages, but because there were therein involved the interests of several European states, of

which two were principally concerned by present material interest and traditional rivalry. Of these one, and that the one most directly affected, refused to take part in the proposed interference, with the result that this was not abandoned, but carried out solely by the other, which remains in political and administrative control of the country. Whether the original enterprise or the continued presence of Great Britain in Egypt is, entirely clear of technical details, open to the criticism of the pure moralist is as little to the point as the morality of an earthquake; the general action was justified by broad considerations of moral expediency, being to the benefit of the world at large, and of the people of Egypt in particular—however they might have voted in the matter.

But what is chiefly instructive in this occurrence is the inevitableness, which it shares in common with the great majority of cases where civilized and highly organized peoples have trespassed upon the technical rights of possession of the previous occupants of the land—of which our own dealings with the American Indian afford another example. The inalienable rights of the individual are entitled to a respect which they unfortunately do not always get; but there is no inalienable right in any community to control the use of a region where it does so to the detriment of the world at large, of its neighbors in particular, or even at times of its own subjects. Witness, for example, the present angry resistance of the Arabs at Jiddah to the remedying of a condition of things which threatens to propagate a deadly disease far and wide beyond the locality by which it is engendered, or the horrible conditions under which the Armenian subjects of Turkey have lived and are living. When such conditions obtain, they can be prolonged only by the general indifference or mutual jealousies of the other peoples concerned—as in the instance of Turkey—or because there is sufficient force to perpetuate the misrule, in which case the right is inalienable only until its misuse brings ruin, or a stronger force appears to dispossess it. It is because so

much of the world still remains in the possession of the savage, or of states whose imperfect development, political or economical, does not enable them to realize for the general use nearly the result of which the territory is capable, while at the same time the redundant energies of civilized states, both government and peoples, are finding lack of openings and scantness of livelihood at home, that there now obtains a condition of aggressive restlessness with which all have to reckon.

That the United States does not now share this tendency is entirely evident. Neither her government nor her people are to any great extent affected by it. But the force of circumstances has imposed upon her the necessity, recognized with practical unanimity by her people, of insuring to the weaker states of America, although of racial and political antecedents different from her own, freedom to develop politics along their own lines and according to their own capacities, without interference in that respect from governments foreign to these continents. The duty is self-assumed; and resting, as it does, not upon political philanthropy, but simply upon our own proximate interests as affected by such foreign interference, has towards others rather the nature of a right than a duty. But, from either point of view, the facility with which the claim has been heretofore allowed by the great powers has been due partly to the lack of pressing importance in the questions that have arisen, and partly to the great latent strength of our nation, which was an argument more than adequate to support contentions involving matters of no greater immediate moment, for example, than that of the Honduras Bay Islands or of the Mosquito Coast. Great Britain there yielded, it is true, though reluctantly and slowly; and it is also true that, so far as organized force is concerned, she could have destroyed our navy then existing and otherwise have greatly injured us; but the substantial importance of the question, though real, was remote in the future, and, as it was, she made a political bargain which was more to her advantage than ours.

But while our claim has thus far received a tacit acquiescence, it remains to be seen whether it will continue to command the same if the states whose political freedom of action we assert make no more decided advance towards political stability than several of them have yet done, and our own organized naval force remains as slender, comparatively, as it once was, and even yet is. It is probably safe to say that an undertaking like that of Great Britain in Egypt, if attempted in this hemisphere by a non-American state, would not be tolerated by us if able to prevent it; but the moral force of our contention might conceivably be weakened, in the view of an opponent, by attendant circumstances, in which case our physical power to support it should be open to no doubt.

That we shall seek to secure the peaceable solution of each difficulty as it arises is attested by our whole history, and by the disposition of our people; but to do so, whatever the steps taken in any particular case, will bring us into new political relations and may entail serious disputes with other states. In maintaining the justest policy, the most reasonable influence, one of the political elements, long dormant, and still one of the most essential, is military strength—in the broad sense of the word military, which includes naval as well—not merely potential, which our own is, but organized and developed, which our own as yet is not. We wisely quote Washington's warning against entangling alliances, but too readily forget his teaching about preparation for war. The progress of the world from age to age, in its ever-changing manifestations, is a great political drama, possessing a unity, doubtless, in its general development, but in which, as act follows act, one situation alone can engage, at one time, the attention of the actors. Of this drama, war is simply a violent and tumultuous political incident. A navy, therefore, whose primary sphere of action is war, is in the last analysis and from the least misleading point of view a political factor of the utmost importance in international affairs, one more often deterrent than irritant. It is in that

light, according to the conditions of the age and of the nation, that it asks and deserves the appreciation of the state, and that it should be developed in proportion to the reasonable possibilities of the political future.

Harper's Weekly. 50: 337-8. March 10, 1906.

Why We Need a Bigger Navy. Walter Scott Meriwether.

It did not require Kaiser Wilhelm's recent dictum to prove that the best insurance against war is the possession of a powerful navy, but since that utterance of his has attracted so much attention, it may be interesting to show the amount of such insurance which each nation now carries.

According to a recent estimate by Representative George E. Foss, chairman of the House Naval Committee, our naval appropriation act for the current year carried \$100,000,000, and yet on the basis of per capita this is a little more than \$1 for each man, woman, and child in the country. It is only about 4 per cent of our foreign trade during the past year, which amounted to about \$2,500,000,000. It is 14 per cent. of our annual governmental expenditures, a less percentage than was expended upon the navy one hundred years ago. It is only one-tenth of 1 per cent. of our national wealth. It is about one-third of what this country annually expended in premiums on fire-insurance, yet one hostile ship of war winning to New York's harbor approaches could start a work of destruction that would bankrupt every insurance company here and abroad, while the amount of damage she could cause would be more than sufficient to maintain for more than one hundred years a navy thrice as big as the one we now possess.

There will be many to assert that this is inconceivable—many to contend that no nation has fleets powerful enough to force an entrance past the batteries which guard New

York. Thanks to the panic which the Spanish-American war brought to the seaboard citizen, and which was reflected in the halls of legislation, that is doubtless true, but what if there should be a coalition of powers against this republic? That is not inconceivable and, according to one well-known English observer, not even unlikely.

"It is only the knowledge that the sea barrier is impenetrable," writes Lieutenant Carlyon Bellairs, of the Royal Navy, "which will effectually prevent the expanding Teutonic, Slavonic, and Latin races of Europe from contemplating aggresssion on the American continent. If unable to do so singly, nothing but sea power will prevent them from trying to effect their purpose in combination."

But protestants will say that there is nowhere visible any concert against this republic, and that in all likelihood the only other wars in which this country is ever to engage again will be the savage ones of peace. Yet it is only a few years ago since these parochialists were ringing their little parish bells over the demise of war, and at the same time—this being in 1897—some officials then high in the administration of the affairs of this country were fatuously assuring the earnest advocates of stronger armaments that there would never be another war. Since then the war drums have throbbed thrice over, and so scarlet was the hue of those sins of omission on the part of a Congress which, at the opening of the Spanish-American war, had left the country in such an appalling state of defencelessness, that there were many in the navy to covertly rejoice over the panic of seaboard citizens, and to a unit these and many more have since adhered to the faith that if the fifty millions hurriedly appropriated by Congress directly after the Maine disaster had been previously appropriated for the upbuilding of the navy there would never have been a Spanish-American war, and along the coast line there would never have been imagined such "heavy firings" as disturbed the peace of the coastwise folks during the early days of that conflict.

But there are now signs of an awakening to the changed

requirements of the country, and the Congress which has always been without a policy in regard to naval construction, saving that one of a general antipathy to the navy and its needs, has recently granted considerable to the much-neglected service, but always in a grudging way, consistently paring appropriations to pressing needs, and further nullifying the good intentions of those who would have a navy which, unit for unit, would be superior to any other; by setting a limitation on the size of vessels to be built, and, as in the case of the recently authorized Mississippi and Idaho, setting it so far below the standard that other nations are constructing that both of these battle-ships may be classed as waste products, ships that may be overtaken by obsolescence almost before they are commissioned.

It is to be hoped that the lessons from the war in the East, which are now conceded to read that the bigger ship, with its greater protection, superior speed and more powerful battery, far outclasses on all three of these important factors the smaller, weaker-protected, and lesser-armed antagonist, will be taken to heart by those hardy tars and eminent naval constructors who form the Naval committees of the Upper and Lower House. For one needs only to glance at the vast contracts which we have taken as a world power to realize that our naval responsibilities of the future are second only to those of Great Britain. Since our recent accession to this high place in the world's affairs we have assumed, and have had thrust upon us, some immense liabilities in New and Old World policies. Specifically in the Far East do the most thoughtful now find a situation which leads them to unhesitatingly champion the rapid upbuilding of a strong navy. There, also, is the Panama Canal and the commercial expansion which will inevitably follow the opening of the transisthmian waterway; and not the least among our responsibilities, is the self-imposed one of the Monroe Doctrine, a formula which does not rest on any law of nations, but on our ability to maintain it. In the opinion of many observers our ability to enforce this doc-

trine and our chances of maintaining peace with the rest of the world depend solely on our navy programme.

"How many battle-ships," a distinguished American naval authority was recently asked, "should we have to be insured against aggression?"

"Seventy," he replied. "If we are to be prepared to defend our own against all comers, we must have sixteen battle-ships along the Atlantic coast, twenty-four for the Gulf of Mexico and the Caribbean Sea, sixteen on the Pacific coast, and sixteen in Philippine waters. We may never get them, but if we are to put up the front of a world power; the time may come when we will need them."

Built and building this country now has only twelve battleships built and thirteen others in course of construction. This country's present showing of total naval strength places it fourth in the list of sea powers, and it would now be fifth but for Russia's enforced recession from third place. According to a table prepared by Captain Seaton Schroeder, Chief Intelligence Officer of the Navy, the present relative order of war-ship tonnage of the eight first-class powers is as follows:

Nation.	Tonnage.
Great Britain	1,537,682
France	614,045
Germany	415,824
United States	386,428
Italy	261,411
Japan	253,401
Russia	226,780
Austria	112,336

But it is gratifying to learn from the same authority that when present building programmes have been completed, this country will have moved to third place, and close to that second place where political economists believe she rightfully belongs. This would be the relative order were vessels now building completed:

Nation.	Tonnage.
Great Britain	1,896,138
France	798,365
United States	688,973
Germany	589,100
Russia	337,628
Italy	328,221
Japan	304,801
Austria	151,626

By battle-ships of the first class the ranking is:

	Number.	Tonnage.
Great Britain	53	714,900
France	19	212,589
Germany	16	178,575
Italy	13	162,314
United States	12	137,329
Russia	7	82,809
Japan	5	70,516

Next in effectiveness to the battle-ship is ranked the armored cruiser. Of this type each country has now the following number:

	Number.	Tonnage.
Great Britain	24	248,800
France	19	154,452
Japan	8	72,738
United States	6	72,335
Italy	6	39,185
Germany	4	37,040
Russia	3	31,288
Austria	2	11,520

Excluding vessels over twenty years old, those not actually begun, although authorized, gunboats, and other vessels of less than 1000 tons, transports, colliers, repair-ships, and torpedo craft of less than 50 tons, the present war-ship tonnage of the various powers is as follows:

	Built.	Building.	Total.
Great Britain	1,537,682	358,455	1,896,137
France	614,045	184,320	798,365
Germany	415,824	173,286	589,110
United States	368,428	302,545	688,973
Italy	261,411	66,810	328,221
Japan	253,401	51,400	304,801
Russia	226,780	110,848	337,628
Austria	112,336	39,290	151,626

Throughout the progress of the war in the East it was interesting to note how the eyes of the world were centred on Great Britain, and how eager were all maritime nations to gain a hint as to what her future building programme would be. As the Japanese were her allies, it was clear that she would be first to have the benefit of the lessons which that conflict taught. It is now highly instructive to learn that the British Admiralty has just planned the biggest of battle-ships, one designed to carry the heaviest of armor, a vessel of 18,000 tons, with a speed of from twenty to twenty-one knots, a practically impervious armor, and a battery of high-powered guns of a huge calibre, and no other armament save small rapid pieces of the type designed to repel torpedo-boat attack.

To the credit of our own navy men it may be said that they long ago urged this type—long before the Eastern war had proved in practice what they had so long asserted in vain. They had also insisted that small ships are bad economy, for the reason that the smaller the tonnage the greater the cost of fitting out. In illustration of this it may be said that for their size torpedo-boats are the most expensive vessels afloat. Of this type the showing is as follows:

TORPEDO-BOAT DESTROYERS.

	Built.	Building.
Great Britain	128	16
Germany	37	12
Russia	31	53
France	31	12

Japan	24	25
United States	16	—
Italy	13	—

TORPEDO-BOATS.

	Built.	Building.
France	230	95
Italy	97	27
Great Britain	91	—
Germany	84	—
Russia	82	—
Japan	81	—
Austria	37	2
United States	32	—

One of the Japanese torpedo officers says that it takes her weight in shells to sink a torpedo-boat—that it is marvellous how the shells do not hit. This type of vessel, which, after the Spanish war, had none to do it reverence, found in the early stages of the war in the East so many to extol its merits that at one time it seemed as if Congress was on the verge of tearing up all its plans for battle-ships and building nothing but torpedo craft, appears now to have settled back to its old place as a useful adjunct to a fleet, but not one of prime importance. Admiral Sir Cyprian Bridge, of the Royal Navy, is authority for the statement that in the Eastern war only one battle-ship—the Suvaroff—was sunk by a torpedo, but even in this case no torpedo attack had been ventured until the vessel had been rendered helpless by gun-fire, and that it was the grace stroke only that the torpedo gave. "There was," says the admiral, "not a single Russian ship attacked, much less destroyed, by torpedo-boats until she had been seriously maltreated by the Japanese guns, and it is perfectly true that if there had not been a single Japanese torpedo craft within five hundred miles of the scene of action not one of the Russian ships which were destroyed would have got away. All such probably would have been added to the number of prizes taken into Japanese ports if no torpedoes had been fired at all."

Independent. 57: 972-4. October 27, 1904.

The New Navy. Charles E. Jefferson, D. D.

To many it is a cause for boundless rejoicing, the joy of the nation and the pride of the New World, but some of us cannot help asking whereunto this thing is going to grow. We have increased our naval expenditures seven hundred per cent. within eighteen years, and the tree is yet green. Our navy as planned already outranks that of all countries except England and France, and the end is not yet. The experts are all agreed that we must push ahead of France, and bolder spirits claim that we must surpass England. To stand second to England will demand an annual naval expenditure of \$200,000,000. Our naval expenditures thus far are not half that sum, but already Congress is obliged to cut down its appropriations for rivers and harbors and for public improvements, and must haggle sometimes for years over the price of a piece of land to put a public building on. We cannot eat our cake and keep it too, nor can we spend \$200,000,000 a year on a navy and have it left for something else.

Then one wonders sometimes just what we want such an enormous navy for. Of course, the steel kings want it, and so do the manufacturers of armor and projectiles and ships. There is probably a slight profit in battle ships at \$8,000,000 apiece. A hundred millions a year is a plum of fair dimensions, and that the sight of it should quicken patriotism is not surprising. Then the naval experts want it, for they have a laudable professional pride in pushing our navy to the head of the procession. Editors of a certain sort want it, for it lends itself easily to graphic treatment and money-making headlines. And the great crowds of barbarians in all of our cities want it, just as they want many another thing which it is not good for them to have. But why sensible, patriotic Americans who understand the

genius of their country and who have read history even a little, and who want our Republic to escape the entanglements and delusions which have wrought havoc with the greatest empires of the past—why they should want to surrender the policy which we followed for a hundred years with success, and adopt the policy of governments which are being slowly crushed by the weight of their armaments, this is, indeed, a puzzle.

One cannot help wondering how it comes that Americans with all their education are so easily gulled. For instance: when men say that a great navy is just as essential to a nation as a police force is to a city, one wonders that anybody can be so dull witted as not to see the fallacy. There are not many of us who go with Tolstoy in saying that all use of force is wrong and forbidden, for crazy men and drunken men and thugs must sometimes be coerced into action which they would not of themselves have preferred. And as bandits can carry on their depredations on water as well as on land, every nation should do its part in policing the highways of the sea. But every sane man knows that we are not just now building up a naval police force. We are building up a fighting navy, a navy not for capturing pirates, but for fighting the biggest navy afloat. We are not thinking of pirates, but of Russia, of Germany, of England, and of France, our neighbors in the family of Christian nations!

One wonders also at the Quaker-like language of these naval enthusiasts. "A large navy is the most potent means of securing peace," says one. "It is essential to the maintenance of peace," says another. "Preparedness for war is the best possible guarantee of peace," says a third. This is the gospel being preached by our President, by many Senators and Congressmen, and by a host of eloquent talkers, who succeed in deceiving even the elect. But why be hoodwinked by a falsehood so transparent? All history proves that the way to preserve the peace is to prepare for peace. This was the doctrine of our fathers, and they re-

fused, therefore, to fortify the Canadian frontier or to fill the lakes with men of war. Their policy has worked well. It is the custom of every Government to compel its citizens to go unarmed. The men in Sicily and Kentucky who prepare to fight always fight. It is only when men cease to carry dangerous weapons that they are able to preserve the peace. Napoleon III would not reduce his army—he prepared for war. Bismark also prepared for war, and war came. Japan prepared for war, so did China—they fought, Russia has been adding to her battle-ships, so has Japan—they are using them. A nation cannot fill its belt with bowie knives and revolvers without wanting to see what they will do. When we get our navy up to the desired size we will use it. Some one will insult us, step on our toes in some of the markets of the world, the barbaric press will shriek, the blood will boil, and there will be war!

Before we had a navy we never knew the sense of fear. We walked unarmed among the nations of the earth, and people of all lands were our friends. Now that we have our battleships we are in a state of chronic alarm. We are suspected, feared, and in many quarters hated. We listen breathlessly to hear what far-off critics are saying about us. We read each day in magazine or paper of some new and fearful peril. We know not what a day may bring forth. We have whetted our sword in the ears of the nations, and have said to our neighbors, "If you want a scrap, come on!"

And this is the nation from which the world had expected better things, the Republic which influenced and led the nations without a navy for a hundred years, which defended the Monroe Doctrine against France and against the British Empire, not by might nor by power, but by the potent spirit of a great people who dared to do justly and to love mercy.

To some of us it is inexpressibly sad the change which has come over the spirit of many of our people. Wealth has spoiled us, success has coarsened us, power has intoxicated us. We are becoming cheap and common, aping the customs

of nations far below us. Losing our faith in moral forces, we are being swayed more and more by the ideals which brought Rome to ruin, and which we once counted it our greatest joy to have escaped. To us as a nation was granted the inestimable privilege of doing a beautiful and original thing, of walking among the nations as their helper and friend, trusting them and being trusted by them in return, never suggesting by bristling guns and deadly projectiles that we were their enemy or that they were ours. God gave us a continent washed by two broad oceans that here unmolested we might work out in peace the problems of liberty and love. Europe is a mass of prejudices, enmities and age-long hatreds. Nothing original can be attempted there. Men must watch one another sword in hand. But to us was given a home far away from the rivalries that embittered and the hatreds which destroyed in order that we might succeed where all who went before us had failed. But, alas! the seductions of Egypt are too mighty for us, the brute in us is too strong. Our ideals have for many eyes grown dim. Instead of spending our money on great public improvements which would make America the wonder of the world, or upon the black race, which might be made one of the great races of history, we are squandering hundreds of millions on instruments of slaughter, thereby educating a new generation of American boys to barbaric ideals of life, and bringing down the moral tone of the world.

And the pity of it is that all this is done in Christendom, and under the direction and with the sanction of the men who pray, "Our Father," and who claim to find heaven's will expressed in the Sermon on the Mount. The Czar of Russia, the Emperor of Germany, the President of France, the King of England and the President of the United States are all of them professedly Christian men, surrounded by counselors who claim also to be Christians, and yet they allow the intolerable outrage of this armed peace to go on. The first thing we give to Pagan peoples is perfected methods in

the art of human slaughter. Japan uses our guns before she learns our prayers. Small wonder is it that the philosophers of India ask in perplexity: "Is Christianity indeed the religion that is to come, or are we to look for another?" But some one says that America cannot disarm until all other nations do. Our reply is: Can she not make a beginning? Can she not lead the way?

Independent. 58:639-41. March 23, 1905.

121 / Shall the Navy be Increased?. John D. Long.

I rejoice that the tendencies of our national Government and especially of our national public sentiment are toward the paths of peace. But there is always danger that in strengthening our military armament, tho only with the intent of securing better means of defense or insuring a proper international police power, we may incur the temptation to use our increased force in an offensive direction. A man with a pistol in his pocket is more likely to use that weapon than if he does not happen to have it on his person.

It seems to me, for instance, that we are pushing the Monroe Doctrine a little too far. There is grave danger that in asserting too radically what is recognized at home and abroad as an established doctrine of our country, we may place ourselves in the position of interfering too far in the affairs and with the rights of other nations. It is, of course, only another name for the doctrine that "might makes right," and that we are justified in keeping other nations away from further territorial encroachment on this hemisphere on the ground that it is not for our interests, however much it may be for theirs, to do so.

I do not like the Santo Domingo treaty, so far as we have been informed with regard to it. It seems to me impolitic, and it certainly would be prolific of embarrassing and costly entanglement for us to commit ourselves to the

role of a debt collector for foreign Powers—collecting from various South American countries debts which they may happen to owe to countries in Europe. Such a policy is likely to lead not in the ways of peace, but to those complications arising from interference in the affairs of other nations and carrying the peril of the chance of war.

Then, too, there is no telling the extent and involvement of the obligations upon us to which this policy, however it may be defended in the particular instance of Santo Domingo, may lead. It becomes a precedent; it makes us practically a sponsor for any South American country with reference to which it is adopted—at first as to its financial liabilities and then by easy steps as to its general relations. There is something more at stake than the mere collecting and holding of Santo Domingo revenues for the payment of Santo Domingo debts. The minute we enter into this obligation we become practically responsible for these debts. Suppose a revolution or disorder or corruption or that the revenues of that island fall off so that they are unequal to ~~meet~~ the payments for which we collect them. May not some creditor nation in that case say that by our interference we have prevented its direct action upon Santo Domingo, and are, therefore, under obligation to make good the damage? In other words, an infinite variety of obligations suggest themselves. It is certainly a departure from the well established Washingtonian policy of nonentanglement for our country which has stood till these later days.

In this connection, I am not at all certain that the emphasis which in recent years has been laid upon our naval development may not suggest a cautionary signal. We have never had so strong and effective a navy as now. Being for the present in less demand in the Orient, our ships find employment in drill and maneuver and there is also a tendency, of course, to gather some of the small craft, including now and then a big one, at any point where the telegraph suggests that there has been a riot or an uprising or a threat of change of government in some of the countries

south of us. Naval officers feel under obligations to pursue the very proper policy of protecting American interests and so are led to take a hand. In other words, we run just now the risk of getting our finger into too many pies, with a chance of burning it, and wisdom and prudence suggest the opposite trend toward reserve and self-restraint and toward being very sure that it is our own business which we are minding.

I recognize, however, that preparedness is a vital consideration, and that with our increasing national development we cannot keep altogether within the more limited lines of the past. I have entire faith in the high mind and honest purpose of our present national administration, and I am referring rather to possible national tendencies under present leadings than to anything else. But I fancy that there is likely to be a reaction in this direction and that it is a time when it is wise, in homely phrase, "to go slow."

I share in the belief that our country ought to have a large navy. This was my view when I was in the department and I never saw occasion to change it. There is much more need for us to maintain a large navy than for us to keep a large army. We have not much to fear from any land invasion of this country by any foreign Power, protected as we are by nature and by the ocean, by the navy and by our fortifications, and by the spirit and overwhelming numbers of our people. Furthermore, a large army can be improvised in a comparatively short time and our volunteers have always made good soldiers, but it takes years to build ships of modern sort, and, of course, we ought not to fall back into the dilapidated naval condition in which we were for so many years after the Civil War.

On the other hand, I am very strongly of the opinion that the recent system of appropriating every year for large numbers of new battleships is not wise and is going too far and too fast. In the first place we have a very good navy now. There are, as I learn from Senate document No. 117, recently published, some 265 vessels fit for service, in-

cluding 14 battleships and armored cruisers, 18 protected cruisers and a variety of gunboats, torpedo boats and monitors and various other craft. There are also some 47 vessels authorized or under construction, among which are 5 protected cruisers, 10 armored cruisers and 14 firstclass battleships. Battleships and cruisers are practically equally large and effective and are each from 12,000 to 16,500 tons. In other words, we have already twice as many of these great ships authorized or under construction as are now in service. This is a very rapid and expensive rate of increase.

In conversation with the Secretary of the Navy last summer I expressed the opinion, which I still have, and which I have as a very cordial advocate of a large navy, that it is time to pause. As I then said to him, I would this year refrain from appropriating for any battleship, certainly for not more than one.

There are three reasons for this.

First, there is a growing feeling in the country that we are carrying this increase too far, and the result will, as always happens, be a reaction in public sentiment, which is liable to be injurious to the navy and to delay its slower and healthier development much more than the self-restraint of not appropriating for a battleship this year would do.

Second, we are threatened with a deficit in our national treasury and with several millions less revenue than our expenditure. On good business principles, therefore, if we can, by not appropriating for three battleships this year, save some twenty millions of dollars, it would, in the absence of any crying necessity for their immediate construction, be good business sense to do so.

Third, it seems to be a fact that we have some difficulty in securing officers and men enough to properly man all the ships we now have. If we add to our present number of big ships twice as many more, we have to face the alternative of letting them rust in dock or of going to the enormous expense of additional officers and men and of their

training, education and support—twice or three times as many officers and men as we now have.

The naval expenditure is approaching a very high figure: During the year 1898, when the Spanish War was going on and everything was on a war footing, actual hostilities made a great draft on the treasury, and yet the appropriations for the Navy Department were, as I gather from the same document, something like \$125,000,000; in 1899, when the quiver of the war was still on, \$62,000,000; in 1900, \$58,000,000; in 1901, \$69,000,000. Last year, 1904, they were over \$103,000,000, almost as much as during the war with Spain; this year about the same.

These expenditures for the navy in a time of peace on the basis of a time of war are a little out of keeping with our position as a peaceful nation. Too great a navy will be regarded not in the light of protection, but of menace and of temptation to involve ourselves in the affairs of other nations and so to incur the danger of being drawn into their wars. It is not altogether easy to find occupation for the vessels we now have. We must, of course, have enough for any probable emergency, but if we get an undue number, people are going to ask, "What in thunder are we going to do with them?"

Independent. 59: 20-2. July 6, 1905.

An Anglo-American Navy. Paul Morton.

The Right Honorable Sir Charles W. Dilke in a recent article declares the real meaning of the remarkable changes in Great Britain's naval policy to be that the present British Government is frankly and profoundly convinced that Great Britain will never again wage war with the United States. This feeling is shared by most Americans. A few prominent men of the United States have expressed their disapproval

of a large American Navy by stating that it is unnecessary, extravagant and altogether undesirable; that by a policy of non-exportation of food products this country could force Great Britain and the other Powers of Europe to sue for peace in thirty days' time, because the people of those countries are our best customers and absolutely depend upon the United States for their food supply.

To me this seems absurd, and in my opinion it will not be long before the growth and development of industry in this country will make it almost impossible for us to furnish any considerable quantity of breadstuffs to foreign countries. Within the next twenty-five years we are quite likely to consume all we produce. In the meantime other sources of food supply in the world will have been so developed as to furnish substitutes for the present American exports; especially with Northwest British America come to the front as a wheat raising country.

To my mind the fact that Great Britain is our best customer makes it most important that we should have a navy which in case of dire necessity might be used to protect mutual interests. The policy of non-exportation advocated by some of our distinguished citizens would be as detrimental to us as to those we undertook to punish, and in case Great Britain should become involved in war with any foreign Power, it might be vital for this country to keep open the avenues of trade, and to do this it would be necessary to call in the agency of an all-powerful American Navy. The sentiment of the American people is now quite generally in favor of having a navy second only to that of Great Britain and the almost unanimous feeling in this country is that the English speaking people of the world together should have a combination navy that could hold its own against all the navies of other nations. The American Navy combined with that of Great Britain would be an absolute power in the world's affairs.

All serious differences which the United States may have hereafter with foreign countries will be settled either by

arbitration or by battleships. Most great modern wars have been settled by navies. Even in the Civil War in America the blockading of the Southern ports by the Union Navy, which prevented the people of the South from exchanging their cotton and other products for munitions of war, was an important factor in giving the North its final victory. More and more it is demonstrated by the Spanish-American War and the war between Japan and Russia that the Power which controls the sea measures the Power which will control the earth.

The American people are for peace. They think their greatest conquests are to be made in commerce. They deplore war. Their resources are great. They already furnish a large proportion of the surplus food to the world. However, they are not satisfied that their country should be considered only as the granary of the world. They want it to be regarded as the world's workshop, also. The wonderful resources of America, the ingenuity of the American people, their business instincts, their ability to work hard, all tend to make them ambitious to become the manufacturing people of the world, and with this in view they hope to do a share of the world's commerce commensurate with their wealth and resources. Neither will they be satisfied with making America the granary and the workshop, for the American people have ambitions along financial lines. It will not be many years before New York City has a population of ten million people, and the ambition of its financiers is to make it the counting-house of the world's commerce.

Personally, I am an "intense" American, but I believe in expansion. When I say expansion I do not necessarily mean an expansion of territory. I mean the internal expansion that is now going on in the United States. I believe in the expansion of our navy, of our political influence, and the reason for all this is that these things lead to expansion in commerce and finance.

The American people feel their taxes probably less than any other nation. They are already the richest people in

the world and rapidly growing wealthier. The money is not being concentrated in New York or any single financial center, but it is generally distributed throughout the country. The agricultural classes never owned as much or owed as little as they do to-day. In brief, the American people as a nation are in a position to pay for anything they want, easily and without adding perceptibly to their burdens. This is shown not only in the annual appropriations and the building of the navy, but in the building of such enterprises as the Panama Canal, the devotion of \$25,000,000 to irrigation, and other stupendous undertakings which have been brought about without a perceptible increase in the per capita burden of taxation.

It is not necessary for us to have a navy as large as that of England, but I stand emphatically for a navy second only to that of England. I believe in a navy of such fighting force that it will discourage any other nation from desire to engage the United States in warfare. I believe in a navy so formidable that it will preserve peace; a navy so well prepared for war at all times that war will never come. My conception of the American Navy can be stated in three words—construction, instruction and destruction. I believe we should build as good ships as anybody. I believe they should be first class in every particular. I believe they should be as well armored and their guns should be as large and that each ship should have as many guns as the best battleship of any other nation.

I know that our officers are just as gallant, just as brave, just as skilled as the officers of any other navy. I believe that our officers are the best educated men of their class in the world. I know that our enlisted men are now nearly all American born. I know that they are the best clothed, the best sheltered, the best fed and the best paid men of any navy in the world, and I believe if war ever comes, which God forbid, when fight we must, our officers and our men will fight as well as, if not better than, the men of any other navy.

The navies of Great Britain, of Germany and of France are supplemented by a large merchant marine, which up to the present time we are without. I believe in the upbuilding of our merchant marine. I believe that exporting as we do more goods in tonnage than any other nation of the earth, we should own and operate more ships. Our greatest weakness in transportation is on the seas. We must devise some way to show the world that we can triumph in the carriage of freight by water in the same manner as we have on land.

The United States will in time logically and inevitably become the most powerful nation in the world. This will be due to geographical position, and extent of country, diversified resources, enormous natural wealth, the composite and alert character of the population and also to the fact that the tax resisting power of the American people has as yet been encroached upon to but slight degree and promises in the future to become almost inexhaustible. The fulfillment of such a destiny as this will be advanced or retarded in direct ratio to the expansion of the naval power of the country.

England is now the greatest naval Power in the world and probably will remain so for many years to come. Her people are so accustomed to regard naval expenditure as a necessity that no complaint is made of taxation for the purpose of maintaining a supreme position. The United States is the only country which has or can secure the money in the immediate future required to build up a naval Power approximating that of England.

With the navies of the two countries large enough when combined to constitute an unquestioned authority in the affairs of the world, it would not only be a matter of sympathy between English speaking peoples or self interest in the maintenance of international markets to prevent war, but there would be a possible moral obligation resting in the possession of this power, which would be as compelling in bringing about united action for peace throughout the world as any need for self protection.

Nation. 76: 324-5. April 23, 1903.

The Naval Folly.

A distinguished naval officer writes to us: "One of the signs of the times is the transfer of the struggle for armed superiority from the land to the sea. In this transfer we have become entangled—largely through our holding on to the Philippines, which makes us guilty of the strategic blunder of maintaining an outpost many thousands of miles from our base." He asks us to comment upon this surprising change in policy which results in "substituting Jack Tar for Tommy Atkins on the peasant's back."

The theme is inviting. Take the matter of expense. All public expense means, by so much, personal deprivation. Income to the Government means outgo to the citizen. We have frequently remarked on the swollen and swelling naval appropriations of Great Britain, France and Germany. The huge estimates for new ships and their maintenance are presented to Commons, Chamber, or Reichstag with an apologetic air. But how stands our own account? We are pushing up our annual expenditure on the navy at a portentous rate. Twenty years ago the naval appropriation bill carried less than \$15,000,000. Even as late as 1895 it had reached only about \$25,000,000. But the bill for the current year appropriated no less than \$80,000,000. That is to say, the naval tax has mounted from about 45 cents per capita in 1892 to \$1 in 1903—a cornerstone fact for the McKinley monument. Moreover, the expense is bound to go on by cumulative additions. One hand washes the other, and for both the country has to pay. A programme of navy enlargement to the tune of \$20,000,000, as provided this year, compels enlarged appropriations for equipment and support. New ships require new men; 3,000 more seamen are to be enlisted, under the terms of the last naval appropriation bill,

with 550 men added to the Marine Corps, and the number of midshipmen in the Naval Academy doubled. All told, we are at the present time clearly on a road which will speedily lead us to a naval establishment that will demand an outlay of \$150,000,000, annually.

Thus rapidly are we wiping out, of our own motion, the advantage which we have always boasted that we had over European nations. Our isolation, with our expanding population, freed us from the necessity of going armed to the teeth. How we have asked triumphantly could the John or Hans or Jacques of the Old World hope to compete with the free labor of American farmers and artisans, so long as the former had to go to their work in the field or shop each with a soldier strapped upon his back? Well, we are strapping on a sailor instead. Do not forget that the dread of vast military establishments which Americans have proverbially expressed has had to do primarily with their costliness. This was what Mr. Roosevelt had in mind when he wrote, seven years ago, "We do not wish to bring ourselves to a position where we shall have to emulate the European system of enormous armies." This was also what he had in mind the other day when, as president, he congratulated the people of the West on the fact that the army, and the expense of it, were being substantially cut down. It is not that he or anybody fears that a great standing army will destroy our liberties; only that it will eat up our resources. But what shall it profit us to save \$5,000,000 on the army if we promptly waste it and \$20,000,000 more on the navy? Of all money unproductively locked up, that put into battle-ships not absolutely needed is the most profligately squandered.

And, as our naval correspondent points out so sagaciously, we are going into this game of naval strategy with an immense strategic blunder at the start. The theory is that we must prepare to defend ourselves by a navy against the possible aggressions of foreign nations. All the millions asked are for defence. No advocate of a big navy for the United

States says openly that we dream of attacking anybody. All the talk is simply of making ourselves so strong that no one will dare to assail us. And yet in this process of making ourselves strong, we begin by making ourselves weak strategically, and laying ourselves open to an attack which we have no means of resisting! Who can doubt that, if war were to break out to-morrow between this country and England or France or Russia or Japan, the Philippines would fall to the enemy at the first blow? Their retention is a source of peril to us, in a military sense, just as it was to Spain. Where, on our professed principles of strategy, we should have been drawing ourselves in to become impregnable, we have been spreading ourselves out with the result of becoming highly vulnerable.

Oh, but nobody is going to challenge us in the Philippines. It is not at all necessary to have a fleet in the Pacific strong enough to meet any combination which might be made against us. We are a peace-loving nation. No Power is going to attack us. But this is to give up the whole case. If we do not need a preponderant navy to defend the Philippines, we certainly do not to defend our own shores. If we are to rely upon our good intentions in the one case, we safely may in the other. The truth is that there is no logical middle ground between a small and efficient navy designed for use in peace, and one big enough to meet all comers in any possible war. We are muddling away at great expense in a futile effort to find something between the two. We are not in a position, and there is no likelihood of our ever being in it, to outclass the great naval armaments of Europe; yet as if that impossible goal were our definite objective, we take needless millions from the labor and thrift of our people, and deliberately assume an unnecessary handicap in the industrial competition now pressing so hard upon all the world.

North American Review. 175: 544-57. October, 1902.

America Mistress of the Seas. Captain R. P. Hobson.

The two facts of the century just closed that portend most for the human race are the rise of Russia and the growth of the United States.

Within these two nations are gathering mighty factors of national power, mightier factors than have yet appeared in the history of the world, factors resembling in general nature but exceeding in magnitude those that brought forth the Empire of Rome and the British Empire—cumulative factors that mark Russia for a military empire destined to throw Rome into the shade, and the United States for a mighty Naval Power toward which the vast power of Great Britain is but a stepping-stone.

In the United States we find elements of power, numbers and vigor of population and material resources, without a parallel in history, together with conditions never yet equalled—maritime frontiers, vast material interests, and sacred principles—which demand the growth of power upon the sea.

In population, the United States is half again as large as Germany, nearly twice as large as the white population of the British Empire, nearly twice as large as Austria-Hungary, and more than twice as large as France. The population of the United States is increasing twice as rapidly as the population of Germany, and three times as rapidly as the population of Great Britain and the other nations of Europe, while it has from twelve to fifteen times the space to expand in, with a richness of soil that would enable the United States to support a population equal to the present population of the earth, without taxing the soil beyond the degree now existing in Europe; and every improvement in transportation and means of intercommunication will cause the United States to draw off more and more the hardy and

vigorous people of Europe, and thus to make even a greater disparity in the rate of increase.

Moreover, the average American, man for man, is from two to five times as vigorous as the average European. The average American man is an inch taller than the average Englishman, who is the tallest man in Europe, and the average American eats about twice as much strong food as the average Englishman, who is the best fed man in Europe.

In the United States, furthermore, about two and a half times as much is spent per capita for education as is spent in England and Germany, which stand at the top of the list in Europe.

The average American wheat-grower produces three times as much wheat as the average English wheat-grower, four times as much as the average French, five times as much as the average German. Similar averages are found in the output of manufactured articles. The output per man in American locomotive works is twice as large as the output in the English locomotive works, which stand first in Europe. The average American wields about 2,000 foot-tons of mechanical energy per day; the average Englishman about 1,500; the average Frenchman and German about 900; and the other averages in Europe are below 500.

There are in the United States nearly 100,000 more members of the international organization, the Young Men's Christian Association, than there are in all the rest of the world combined. If a famine occurs in Russia, or a cataclysm in the Islands of the Seas, the first relief ships sail from American shores. An American army besieging the City of Santiago feeds the women, children and old men, instead of starving these to reduce the city. America, concluding a war with a fallen foe, restrains its fleet and pays twenty millions of dollars, instead of ravaging the enemy's coast and exacting two hundred millions for war indemnity. America, after pouring out blood and treasure, gives Cuba its independence.

Every test goes to show that Americans, with a few

generations of free life in a free continent, are already physically, intellectually and spiritually, a race of giants.

For vigor in warfare, no such manifestations are found in history as were shown in the American Civil War. Though having but 16,000 men in the United States Army at the beginning, the war involved numbers twice as large as the hordes of Xerxes, the casualties alone being 200,000 more than there were soldiers altogether in the German armies that invaded France in the Franco-Prussian War. Campaigns in that war, for distances covered and obstacles overcome, have no parallel, except, perhaps, in Hannibal's invasion of Italy; while numerous battle-fields counted percentage losses from three to five times as great as the bloodiest on record, those of Napoleon and Frederick the Great. In the supreme test of individual fighting, as shown by regimental records, there were over five hundred cases in the Civil War where the losses of single regiments in single engagements exceeded the loss of the Light Brigade at Balaclava, and one hundred and twenty-five cases exceeding the record of the German Army in the war with France.

For vigor in naval warfare, no such record exists in the world as that of the American Navy. In the war of 1812, the British Navy was at the zenith of its glory, fresh from the victories of Nelson, having counted an almost unbroken record of 200 victories with European foes. The force sent against America was seven times as strong as the American Navy; eighteen battles were fought, and fifteen were won by the American ships, with losses less than one-sixth the British losses.

In the Spanish-American war, the American Navy simultaneously broke two world records, first with cruising vessels against cruising vessels at Manila, then with armored vessels against armored vessels at Santiago, achieving in both cases a mathematical maximum of fighting efficiency, compassing the total destruction of the enemy without any loss to the victor. The American Navy alone of all navies of the earth, has never known defeat.

Together with its vast, vigorous population, the United States has unmeasured natural resources, a domain from sea to sea spanning the temperate zone, in richness of soil, the Earth's Garden Area, holding below the soil one-third of the known mineral deposits of the earth, having matchless waterways, the granary, butchery and workshop of the world.

Thus, with a heavy preponderance of numbers, great superiority of vigor, and matchless natural resources, the United States, compared with other powers, has stupendous elements of world influence.

This world influence can rest only upon sea power. Our frontiers are all maritime. Though Canada is a hostage from the British Empire, our contact with that Empire, as with all the World Powers, is the sea. The conditions and mighty forces are wonderfully concurrent for bringing forth naval growth, sure, swift, irresistible.

We have in the United States, 17,000 miles of coast-line, and on this coast-line, and upon the harbors and great rivers leading up from the coast-line, we have built innumerable cities representing accumulations of more homes and property vulnerable from the sea than are found on all the coast-line, harbors and navigable rivers of the continent of Europe combined. Fortifications, mines and torpedoes have been, and still are, useful accessories in coast defence, but they never have arrested, and they cannot now effectually stop, a determined commander of a strong fleet.

The only accident policy, the only insurance, the only adequate guarantee of security, for all this property, for all these homes, upon which depends the happiness of so many millions of American citizens, is the Navy; and the prosperity of the inland population is inseparably bound up with the prosperity of the coastwise populations. Moreover, without adequate protection, this exposed side of the nation would be a standing invitation for attack from nations jealous of our commercial ascendancy.

Estimating legitimate naval requirements from coast-line

exposure, the Navy of the United States should be the largest in the world.

Besides the largest amount of coast property, the United States has the largest amount of water-borne property exposed to attack from the sea, billions upon billions in coast-wise, river and lake trade, and exports now the largest in the world, exceeding \$1,500,000,000 annually. When we are at war, the Navy only can prevent blockade of our ports, and insure the departure of this property; the Navy only can give us safe convoy or a clear road for passage. When Europe is at war, the Navy only can insure our rights as a neutral, and permit us to realize the security of our isolation, and render us, in fact as in word, independent of European turmoil.

Estimating legitimate naval requirements by the quantity of exposed water-borne property, the Navy of the United States, again should be the largest in the world.

But the huge figures of \$1,500,000,000 of American property now shipped annually over the seas, is only an introduction to the coming importance of over-sea markets. With the differentiation of labor and the increasing necessity for free exchange of products, the national importance of foreign markets is, in a general way, proportional to the productiveness of the nation, notwithstanding the importance of the home markets. With the United States now producing one-third of the world's foodstuffs, one-third of the world's mineral products, eight-tenths of the world's principal article of clothing, while she stands but on the threshold of her possibilities of production in these fields; with the United States now employing more mechanical energy than all Europe combined, and now producing \$12,500,000,000 annually manufactured articles more than the combined manufactured articles of Great Britain, Germany and France, while its rate of interest in manufactured articles is twice as great as the rate of increase in Europe; with the United States thus advancing by leaps and bounds, and already almost at the point where it will produce as much as all

Europe combined, the matter of foreign markets, important for all nations, is of supreme importance for us.

While the domestic markets of the other great Powers offer an inviting field, they are subject to embarrassment by local legislation. The markets of most importance for all the great nations are the new markets of undeveloped lands, where all may have an equal chance. These markets are of vital importance to a nation making such gigantic strides as the United States is making in industrial and commercial expansion. In the fierce and fiercer-growing competition of the great Powers for advantage in new markets over the seas, where the local people themselves can make but feeble show of power, the security of the nation's interests can rest only upon the nation's fleets.

To emphasize the far-reaching importance of this question, take the case of the new market of China. From long experience in the reconstruction of gunboats raised at Manila and reconstructed at Hong-kong, I can testify that the industrial capacity of the Chinese is scarcely below that of Americans, while from careful investigation I should estimate the average wages of a hard-working man in China at less than six cents a day. These two facts have a momentous significance. China will be opened up. The disturbances which drew the attention of the world, and which were the occasion of opening the eyes of the soldiers sent there as to conditions existing in the Orient—who, in turn, spread the knowledge broadcast over all parts of the world—will but accelerate a movement already rapid; and soon we shall see more than one-quarter of the human race double, then quadruple, then increase tenfold, then twentyfold its productiveness, demanding, as the standard of life rises with the rate of wages, double, quadruple, then tenfold, then twentyfold more products from the rest of the world. The history of the world does not record a parallel to the magnitude of the economic impulsion that will be felt, an impulsion overtopping that felt in the Renaissance and at the discovery of America.

In this coming market of China the United States has an incontestable right to an equal chance. Moreover, lying, as she does, midway between Europe and Asia, with the Atlantic and Gulf coast-line and the Mississippi Valley to be brought by the Isthmian Canal, along with the Pacific Coast, face to face with the Orient, and being the pre-eminent producing nation with a natural elasticity and adaptability, she should with a fair chance and no favor hold control in the Chinese market.

Over this field, fraught with so much of vital interest, there is a danger line. China herself can offer no resistance to aggression. The European nations, which fought long and bloody wars for the American continents that offered only virgin resources, and for India with its slothful population, will strive for control in China, where, with unmeasured virgin resources, there is an ocean of wealth in the industrial population. Protestations and treaties to the contrary notwithstanding, the European nations will have a steady set toward the seizure of China.

History shows that the conquering nation invariably absorbs the commerce of the conquered. Promises of an open door will not suffice. Our recognized rights to an equal chance in China's markets can rest in security only upon a strong policy that will not permit the partition of China. For such a policy, the United States must rely on herself alone, and must maintain in the Far East a comparatively large fleet.

Similar conditions hold for the important coming markets of South America, markets of the present and immediate future, and of the more distant though not over-distant future when European and American immigration will develop a second America.

Generally, similar conditions hold for all the other new markets of the world; and we may say broadly, for all over-sea markets, that the security of America's trade interests must depend upon the size of her fleets. Having interests great and wide-flung, and increasing more rapidly than those

of any other nation, the United States should have the greatest navy in the world. Here again, our insurance against attempts to invade our rights, and thus for the security of our peace, will rest upon the size of our Navy.

Thus, from considerations of material interests far-reaching and vital to our country's welfare—considerations that involve the security of our coast, the protection of our water-borne commerce, the safeguarding of our rights in foreign markets and new markets, our interests in each of these cases being larger than those of any other nation—from each and every consideration of material interest upon which the legitimate size of a navy should be computed, the United States should maintain the greatest navy in the world; indeed, the size being proportioned to her needs, the Navy of the United States should be almost equal to the combined navies of the world.

But material interests are not the only considerations that should prompt the United States to maintain a great navy. We have sacred principles committed to our charge which can be upheld only by a great navy.

We have not receded one step from the Monroe Doctrine of our forefathers, yet South America is as far from us as it is from Europe. When the race for South-American markets becomes close, and when the growing European immigration to South America becomes stronger and more controlling, we can maintain the Monroe Doctrine there, and guaranteed against an assault upon it, only by being able to send to South America as large a fleet as Europe could send.

But Americans now living have a greater Monroe Doctrine to uphold. We may differ among ourselves in judgment as to methods adopted and to be adopted with the Philippine Islands; but no earnest American would willingly see his country stand aside and allow those 10,000,000 of helpless people, now committed to our charge, to pass under the yoke of a European monarchy. In other words, the Monroe Doctrine has already crossed the Pacific and to-day covers

the Philippine Archipelago. Yet the Philippine Islands are more than 8,000 miles away across the seas. How can we, a nation of action that means what it says, how can we fulfill our bounden duty of protection for the Filipinos except through a strong Navy?

But in principle the Monroe Doctrine should have wider extension, an extension limited only by our nation's opportunities and possibilities for world influence. The white race, in possession of the truths of science and the forces of nature, now controls the destinies of the yellow and black races, though these number nearly three times the entire white race. In the action of the great white nations, controlling the happiness of these hundreds of millions, the United States should have a strong and determining influence. Would it not be selfish and cowardly in us to stand off and see the destinies of these myriads of helpless people dominated by the harsh methods of European monarchies and despotisms?

No man liveth unto himself, neither does any nation; no individual enjoys a blessing without a concurrent responsibility to his fellows, neither does any nation. With nations as with men, Heaven requires works proportionate to talents and opportunities.

We are the only completely liberal nation of the earth. Europe has been evolved by series of conquests, the processes of which have left its society stratified, men and women living and dying where they are born, the vast bulk being born peasants. We have been evolved by free processes only, never ruling over others, and never being ruled over ourselves, producing in our body social and body politic a homogeneous medium, in which men and women rise and fall and seek their levels, according to their relative weights, according to individual force and usefulness, according to individual attainments and worth. Being the only completely liberal nation of the earth, we are constituted the champion of free institutions, and the advocate of human liberties for the whole earth.

It was no mere chance that planted the foot of America at the Gateway of the Orient, the habitat of the teeming millions. Our forefathers laid down the Monroe Doctrine when they numbered less than 10,000,000 of population, shortly after our shores had been invaded. Now, with more than 80,000,000 of population, having passed beyond the point where any nation or combination of nations could invade our shores and threaten the nation's life, with unparalleled elements of power and influence, I do not believe I over-estimate our enlarged responsibilities, or over-estimate our possibilities of realizing practical world policies, when I say that Americans of to-day should extend the Monroe Doctrine to cover the Empire of China. We have a perfect right to say that China shall not be partitioned. In addition, I think we should say to the Powers of Europe, "We will join you in opening up China. It is best for China and for the world that life and property should be secure and Western methods have free course throughout that empire; but we propose that China shall be opened up as Japan was opened up, by the American method—not as India was opened up, and as Africa is being opened up, by the European monarchical method, that involves the conquest and subjugation of the peoples."

Further, without venturing to intermeddle with affairs of others, I believe we should extend the Monroe Doctrine into an American Doctrine that would exert influence and lend a helping hand to all the less happy peoples of the earth, creating and exerting powerful influence for the oppressed of all lands, and for all the yellow and black peoples as they come under the dominion of the white race—a doctrine that would exalt the idea of responsibility and duty, making the best interests of these peoples the guiding purpose of the great nations.

In advancing such a doctrine, we should render a service not only to the belated races themselves, but to the white nations and the world at large, ourselves included, increasing the industrial productiveness and thereby the commerce

of the world, and adding to the intellectual and spiritual progress of the races, which would be a moral asset for the world.

Further, we are the only innately peaceful nation of the great Powers. The European Powers are organized for invasion and for repelling invasion, the nations constituting great military camps, where war and warfare, the military and militarism, permeate and mould the minds and character of the peoples. In America, the contrast is complete; with no wish for conquest, no dread of invasion, free from the military, Americans are engaged in and absorbed by the useful pursuits of peace. Indeed, the absorption of individual business is so complete and personal liberty is so secure, that the citizens forget public affairs—this forgetfulness constituting, in fact, an incidental weakness from which flows periodically bad government in the cities and slackness in our national purposes, especially our foreign policies, a weakness that should be reduced to a minimum by every thoughtful citizen making it a point, whether entering politics himself or not, to take an interest in public affairs.

Being the only fundamentally peaceful people of the world, we are constituted the advocate and champion of peace for the world.

Moreover, in championing peace as in championing free institutions, we should render a service to the world, including ourselves. War that would injure the British Empire, with which we have \$800,000,000 annual commerce, would injure us in injuring our market; similarly, war that would injure France would injure us; war that would injure Germany would injure us; an injury to any part of the human race would be an injury to us and the whole race.

In addition, engaged in peaceful pursuits, we learn to appreciate and respect the rights of others, and are coming more and more to recognize the principle that advantage as well as right lies not in injuring one's neighbor, not in reducing his happiness, but actually in helping him and adding to his happiness—that an increase of happiness for any citi-

zen is an asset for the community, that an advance in the welfare of any people is an asset for the world. With our wonderful system of government, too, where each unit retains control of the affairs of the unit and participates in the common affairs in the measure warranted by its interests involved, we are evolving the only system which can be extended indefinitely, and which can lead to a brotherhood of the nations in which they could live in peace with each other, each attending to its own affairs, having only its just weight in the common council, while endeavoring not to injure other nations, but actually to help them as much as possible.

As pointed out above, the world influence of our country must rest upon the Navy alone; it is only through a great Navy that we can extend our Monroe Doctrine to China, through it alone can we give effect to our general advocacy of free institutions, to our advocacy of peace and of the brotherhood of man. Our forefathers and fathers were nobly engaged and showed a splendid devotion when they colonized our country, won its independence, founded the government, perfected its institutions and perpetuated the nation. Our country has now graduated, and we of this generation are called upon to shape its course as it steps forth into the world to play its part as a World Power, to inaugurate its career of world service. We should be unworthy of our inheritance, did we not lay out and seek for our country a mighty and beneficent role, to fill its majestic and glorious opportunities and possibilities for useful service to mankind.

For this glorious role, that we should all covet for our country, for fulfilling our sacred duties as a nation, we must maintain a great navy.

To meet these demands of sacred principles that appeal to the conscience, as for those of material interests, the United States should have the largest navy in the world; indeed, the proportions would not be strained if the Navy of the United States equalled the combined navies of the earth.

Furthermore, conditions are such in the world, with the great European nations holding each other in check, one Power against another, one alliance against another, that the United States with a mighty navy can hold the balance of power for the world, and can cast the deciding vote in the councils of the nations where world policies are determined, where questions of war and peace are considered. It is hardly overstating the case to say that, with a dominating navy, the United States can dictate peace to the world and can wonderfully hasten the reign of beneficence in world policies.

Let all earnest men and women, who wish for the reign of peace and good-will on earth, realize the fact that, though Hague Conferences and International Peace Societies are useful, the real practical way to hasten this reign is to place control in the hands of the nation of peace, the nation of liberty, the nation of beneficent promptings; let them realize that the United States Navy, which alone can give control to the nation, is thus the bulwark of human liberty, the agent of peace, the instrument of brotherly love.

No one need have apprehension as to the effect on our institutions of having a great navy. No navy ever overthrew any government in the history of the world. With a navy equal to the combined navies of the earth, the numbers of citizens involved would be but a little handful out on the sea, and however strict in discipline and military methods they may be among themselves, the body of the nation would remain unaffected. There could not be the slightest tendency toward militarism; while the accompanying sense of power and of control would but deepen, in the minds and hearts of men engaged only in peaceful pursuits, the feeling of responsibility, quickening the nation's conscience, advancing the nation's moral development. Indeed, noble efforts for other nations and for the world would be a wholesome tonic for our nation. Breathing the purer air of such an exalted station would quicken the pulse of the nation and send a brighter, stronger current to eliminate morbid germs

from all the tissues of the body politic, offsetting tendencies toward commercialism and materialism.

It is of momentous significance that naval power can go hand in hand with complete liberalism, the struggle for supremacy being simply a race for wealth. Here the liberal nations, in which productiveness is the prime incentive, where the population remains in productive pursuits, will hold the controlling advantage. It is naval power that ultimately will give control to the useful and the good, that will give the earth's inheritance to the meek; naval power is the agency for regenerating and redeeming the world.

The resources of the United States, as pointed out above, are so stupendous that if our Navy equalled the combined navies of the earth, the American tax-payer would not be conscious of even the slightest burden, and in the practical work of building ships and preparing them, and organizing a navy, there are no evidences that any nation has greater aptitude, and our shipyards have already the necessary capacity.

While there are thus paramount reasons why we should be the greatest of naval powers, we are to-day only the fourth power, having 550,000 tons of warship displacement. Great Britain has 1,800,000 tons; France has 715,000 tons; Russia has 20,000 tons more than we have; Germany is but little below us and has recently authorized a vast increase, equivalent to doubling and trebling her entire naval force. The other Powers have also undertaken large programmes of construction. At the session of Congress before the last, not a single new ship was authorized. I do not believe the people know this. I believe they wish and will demand, irrespective of party, that every session of Congress make adequate, sure, consecutive appropriation for increases in ships and personnel.

When we recall that it takes three years to build a battleship, while an enemy's fleet can leave Europe and appear on our shores in two weeks, when we remember that our naval insufficiency is a constant danger to our peace, while

such vital interests are at stake, we cannot fail to recognize the urgency of the situation. We should set forth at once with a steadfast purpose and a carefully thought out progressive programme. It is better to lay out a programme on the basis of appropriation for new construction, rather than a set list with fixed types and numbers, leaving the Navy Department to determine each year the types, and the numbers of each type, to aggregate the proposed appropriation. Taking account of the situation and conditions now existing, I would suggest the following programme,—to start with the appropriation made at the Congress just adjourned, about \$30,000,000, and make an increase of \$5,000,000 for next year, or \$35,000,000 altogether for 1903, and increase this amount by \$5,000,000, or \$40,000,000 altogether for 1904, and so on, increasing for each year by \$5,000,000 the appropriation of the previous year, making for 1905, \$45,000,000; 1906, \$50,000,000; 1907, \$55,000,000; 1908, \$60,000,000; 1909, \$65,000,000; 1910, \$70,000,000; 1911, \$75,000,000; 1912, \$80,000,000; 1913, \$85,000,000; 1914, \$90,000,000; 1915, \$95,000,000; 1916, \$100,000,000, and so on, till we become the first naval Power. If the European nations continue to build along their present lines, I estimate that we should overtake Great Britain about 1920, when, at the rate indicated, our naval appropriation for new ships would be \$120,000,000. The probabilities are strong, however, that the Powers will accelerate even their present rates of increase, and we could scarcely expect to reach the top before 1930, when the annual appropriation would be \$170,000,000 for new ships.

Pursuing this course, we should prevent Germany from passing us and should ultimately convince even Great Britain that she cannot remain in the race.

Of course, there is a chance that some Power or combination of Powers may endeavor to deal us a staggering blow before we have gathered full speed. For such a case, we should be prepared to accelerate to any required extent the momentary speed of increase. We cannot ignore in this light the gigantic efforts now being put forth by Germany.

It is only a dictate of prudence for us not to let Germany pass us. It is possible, too, that our world interests and the principles we stand for may gradually cause Continental nations to make combinations for the purpose of checking us. We should be alive to any such movement and prepared to make efforts in proportion.

It may be remarked, however, that any present or future effort of a single nation or combination of nations to strike at America's naval growth would but hasten the day of America's naval supremacy. The conditions for supremacy now exist. Mighty forces are at work. The most potential nation in history, standing upon the strategic vantage-ground of the world, with unparalleled equipment, is being called upon by the strongest demands of interest and the most imperative appeals of duty. Like the cumulative processes of nature, the movement will be irresistible. It cannot be checked. The finger of fate is pointing forward. America will be the controlling World Power, holding the sceptre of the sea, reigning in mighty beneficence with the guiding principle of a maximum of world service. She will help all the nations of the earth. Europe will be saved by her young offspring grown to manhood. The race will work out its salvation through the rise of America. I believe this is the will of God.

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Naval Development During the Next Decade. Rear-Admiral George W. Melville.

Probably the four most significant events in the nation's history during the past decade have been the satisfactory solution of the financial question, our remarkable industrial expansion, the acquisition of the Philippines and the rapid

development of the navy. Not only our own thoughtful people, but also our continental neighbors have been impressed with our action in these matters, and as a result, our relative military and industrial standing has greatly advanced.

Our progress in securing the front rank in financial credit; our ability to hold the home market as well as to successfully compete in the foreign field; our rapid colonial extension, and our success in virtually obtaining the command of the waters of North America, have forced us into a position as a World Power.

It is not only our right to extend our trade, but it is our duty to prevent foreign markets from being unjustly taken away. We must never forget, however, that prosperity and success produce rivals and incite the jealous to opposition. They, therefore, bring new responsibilities, and it is certain that in order to hold on to what we have secured through conquest or industrial superiority we must maintain an armed force of sufficient strength to manifest our readiness and ability to protect commercial rights and privileges.

Only by right, and not by might, will this nation fulfill her highest destiny. For all time the thought should be dispelled that increased material prosperity can be maintained by conquest. It should ever be kept in mind, however, that those countries which are rich in natural resources, but wherein there is no martial spirit, are always the objects of attack and conquest. It is as essential to be in readiness to restrain by military and naval forces the foes that are beyond the boundaries of a country as it is to effectively control, by a local police, the turbulent within a community.

In this age of strenuous life and action war can only be averted by those nations which are in condition to resist aggression. The best guarantee for peace is military strength and preparedness. Our environments are such that no nation would dare to attack us except from the sea,

and, therefore, the navy must constitute the first line of defense from a foe. We don't require a navy great enough to attack the coast of any Continental Power, but we do require a fleet of battleships that could quickly prevent an enemy reaching our shores. Since the navy should be too large rather than too small, it should be regarded as a weapon rather than a shield, for the exigency might arise when it would be necessary to seek the enemy's shores. If maintained to a strength sufficient to be used only as a shield, it would not be long before the navy might be compelled to retreat from its position offshore and seek the shelter of the harbor batteries.

The question of the development of sea power has always been an attractive one. There is a wonder and romance to the sea which makes everything pertaining to the ocean of absorbing interest. The element of danger is never removed from those who go down to the sea in ships, and as the scene is ever changing, the subject is always of interest. It will be remembered that the navy has always kept in close touch with the people, and has never been used in suppression of liberty. Despotism as may be the organization of the individual warship, there is a spirit pervading the service that keeps the navy in sympathy with the purpose of the great mass of the community. Life on the deep is a busy, stirring and invigorating one, and the spirit of unrest and anarchy has never secured a firm footing in any naval service.

With each succeeding year new and powerful forces are arrayed in favor of increasing the navy. It is inevitable that there will be a progressive and rapid development of the naval organization during the next decade. By briefly mentioning some of the elements that are back of the movement to advance our relative naval strength one can best realize how certain we are to advance in standing as a sea power.

Probably the strongest force arrayed in behalf of a greater service is the attitude and action of the general

press. Fortunately for the interests of the nation the question of increasing the navy is not a political one. Its augmentation is urged as vigorously in the South as it is in the North. In demanding that the complement of war ships be increased the people of the Pacific coast are as enthusiastic on the question as those living on the Atlantic. It is a happy coincidence that there is a keen desire everywhere for information relating to the construction, organization and use of the battleship. Many writers now find the subject a profitable field for the employment of their literary talent, since there is a commercial value in news pertaining to the naval service. The several thousand daily papers and the hundreds of magazines and periodicals are almost a unit in urging the Congress to give more men and more ships to the service. The press is, therefore, a mighty force in working for a larger navy.

The subject meets with such approval that it is now an interesting and leading topic of the lecture field. By means of lantern slides and interesting descriptions of warships addresses upon the navy are exceedingly popular. The warships in themselves are also powerful educators in influencing public sentiment as to the necessity for an increased naval establishment. It is safe to say that during the past four years hundreds of thousands of visitors have been shown over the battleships and have been told of our naval needs and necessities.

There are a dozen naval stations and navy yards which are centers of influence for creating an interest in the organization. The mechanics at these stations have allied themselves with organized labor, and as a result the Congress of the United States receives hundreds of earnest and powerful petitions urging the construction of warships at the navy yards. At least ten shipbuilding firms in this country can build battleships and armored cruisers, and some of these establishments have a literary bureau for creating public interest in warship construction. Over fifty firms can build gunboats, and hundreds can manufacture naval stores

and supplies. All these firms have a selfish, if not a patriotic interest in the enlargement of our fleet, and in the past these forces have been quite powerful factors in helping you to secure more war vessels.

The army of tourists and commercial travelers, who annually visit Europe return to America strong believers in a larger navy. The influence of these classes is very great, and has made itself felt upon this question in the halls of Congress. The commercial and maritime associations of the leading seaports have also done effective work in aiding us to secure a larger navy. These organizations have correspondents in every section of the country, and the indirect aid extended has been greatly appreciated. The shipping interests particularly are interested in the movement, for the friends of the merchant marine fully understand that a fleet of battleships paves the way for the formation of a line of merchant steamers.

As to the attitude of the administrative officers of the government upon this question, every Secretary of the Navy and President for the past twenty years has urged the progressive development of this branch of the military service. They have personally visited the ships, and also urged the creation of a naval reserve. The annual appropriation for the naval service has gradually increased, till now it is over double and nearly treble what it was five years ago. For the next fiscal year, including public works of a naval character, Secretary Long has submitted estimates calling for an appropriation of practically \$100,000,000. The Secretary has been an extremely conservative administrator, and the naval needs must have been very urgent, otherwise he would not have recommended an appropriation of such character. The President has indorsed in its entirety the budget submitted by Secretary Long. There has been no Chief Executive whose knowledge of naval affairs has been so thorough as that possessed by Mr. Roosevelt, for only a few years after leaving college he wrote a naval history of the war of 1812 that has long been regarded as one of the best upon the



subject. His appointment as Assistant Secretary of the Navy was, therefore, to his particular liking, and while in that office he learned fully of our needs. If the estimates submitted by Mr. Long had been in any way excessive the matter would hardly have escaped the attention of the President.

The naval estimates have been received with such favor that it is exceedingly probable that the Congress will even increase the appropriations urged by the Navy Department.

It is neither wise nor necessary to set our standard of naval strength by that of any other power. No nation should be regarded as a probable foe, but all are commercial rivals. The history of the world shows that every commercial rival is also a possible foe, for nations will rush to arms in defense of maritime and commercial rights sooner than they will for almost any other cause.

One need not possess a great military mind to realize that now we are in possession of the Philippines, it will be near those islands where we shall have to fight our future decisive battles. It is there of necessity where we are weak, and it will take many years to strongly intrench ourselves in that locality. There is already a cry of "Asia for the Asiatics." It is certain that we must eventually renounce all sovereignty of the Philippines or else prepare ourselves to hold these islands against an efficient naval power whose base of operation may be much nearer than our own. It is a fact that once a nation acquires territory the flag is never hauled down except at a loss of military prestige and commercial influence. We are going to maintain a protectorate over this littoral beyond the Pacific for some time, and a strong navy is the first requisite of this responsibility and duty. We should establish in some harbor in the Philippines large engineering shops, where machinery could not only be built and repaired, but where warships could be docked and built. For the past three years the private docks in China and Japan have been reaping a financial harvest in the repair of our ships, and military reasons demand that we

should not continue to strengthen these establishments in this way.

The defense of the Philippines is but one of the many reasons why we should have an increased naval establishment. Within ten years an interoceanic canal connecting the Atlantic and Pacific oceans should be well under way, and no matter at what point it is cut, it will require a strong navy to insure its safety and neutrality when completed. Such a canal is a military necessity, even though the final cost should run up into the hundreds of millions. Such a canal would help guarantee peace, since it would permit us to move our fleets quickly from coast to coast. It will be a paying investment in the end to do the work. The canal can certainly be built for half what it has cost England to overcome the Boers. Anything, therefore which will avert war is worth paying for.

We are bound to advance in relative naval strength, for it is more than probable that before the end of the decade we shall rank next to England as a seagoing power. Some exigency may compel us to suddenly increase our naval strength, and if industrial and commercial reasons justify the purchase of steamship lines, it may be pertinent to ask why we may not be compelled to make a wholesale purchase of warships from some nation that has greater temporary need of gold coin than steel guns. Just previous to the Spanish-American war we were ready to purchase anything in the shape of war material that could be bought, and it is not at all improbable that some of the surplus millions in the Treasury may go to the purchase of foreign warships. It may be that there is no precedent for such action. This nation, however, is going to care less for what has been that for what may be. To maintain its position as a dominant world power it will make precedent. The financial condition of several countries is such that they will have to dispose of some of their most promising assets, and it may be that we can make for the peace of the world by suddenly augmenting our naval strength in this manner.

Progressive development will not only be made in the di-

rection of building more ships, but advance will take place along the line of making each vessel more formidable. Improvement will be evidenced everywhere, but in several particular respects marked progress will be noted.

There will be a noticeable gain in the speed construction of warships. Up to the present time it has taken five years to design and build a warship, for in no instance has the modern battleship been commissioned in less than five years from the time she was authorized. Since several of the navy yards are now in condition to build the largest type of warship, the private firms are going to be spurred on to faster work in the completion of war vessels. Unless individual establishments expedite the construction of naval work, the government may undertake the task of building its own warships. The nation which is superior in speed construction possesses an important military advantage, and with our great resources we should be second to no nation in this respect.

The progressive improvement that has been made in the character of armor will continue. We have two establishments which can turn out armor of all descriptions, and there is every prospect that at an early date a third firm will compete for this work. It can also be expected that not only will the capacity of the plants be enlarged, but that means will be found for making the armor more rapidly. It should also be possible to fit the armor to the hull more simply and expeditiously, and this will assist in lessening the time of speed construction.

It is highly probable that there will be a change in the size of the main battery of the warships. The large gun has had its day. There is no evidence that any material damage was done to any Spanish warships at the battle of Santiago by our 12-inch guns. In that engagement the conditions for using large guns was exceptionably favorable. The 12-inch gun is too heavy, long and cumbersome for existing needs. It is to be hoped that we will take the initiative in designing a battleship whose main battery is not over 10

inches. The 10-inch weapon of to-day is capable of more effect than the 12-inch gun of five years ago, and this is due to the fact that we now possess a safer and more powerful explosive, a more reliable breech mechanism and a handier gun-mount. As it is not likely that heavier armor will be placed on board the warship, and as the gun has always kept in advance of armor, we can secure the best arrangement of battery by the installation of smaller weapons.

There is a phase of the armor and gun controversy that has not yet been investigated to the satisfaction of naval engineers, although these expert officers have called attention to its importance. I refer to the indirect damage that will be wrought by the impact of every 8-inch or larger shell upon striking the armor belt. There are at least one hundred separate steam cylinders or motors on every warship. There are miles of piping and electric conduits. There are scores of bearings and supporting brackets for piping. There are innumerable joints of various descriptions, also many electric junction boxes. The impact of several good-sized shells upon the armor protecting the machinery compartments will undoubtedly put out of use some important auxiliaries. It will not be necessary for the shell to explode within the vessel to put the warship out of action, for the shock transmitted by the projectile striking the armor will cause some machine of importance to the fighting efficiency of the vessel to be seriously impaired.

Structural and machinery steel will withstand strain and pressure, but it will not resist shock. The impact of the projectile upon the armor will be transmitted to a greater distance than is anticipated. It is more than probable that the most serious damage inflicted will be found in compartments other than in those whose armor has been hit. Damage will not only be done to the auxiliary connections, but it is extremely probable that some sections of the hull riveting will be greatly impaired. Experience has already shown that these rivets can be easily sheared by shock. If the hull armor of any warship gets much pounding from 8-inch

In view of the fact that the present Congress will probably deal with a liberal hand in granting naval appropriations, it becomes increasingly necessary to make sure that the ships authorized are of the type that is most pressingly required. While keeping a watchful eye upon the trend of design among foreign navies, and incorporatng the best elements of these designs, we should, above all things, have an eye to our particular necessities—to the nature of the duties which **will** be required of our ships in view of the altered international conditions brought about by the two Venezuelan incidents and by the Spanish war.

When we commenced the construction of our new navy, we held no possessions not included within our Atlantic, Gulf and Pacific seaboard, and hence our first battleships of the "Oregon" type were very properly designed as "coast-defense" vessels: They were of moderate size, and coal-carrying capacity and speed were sacrificed to extremely heavy armor and armament. We had no designs on the sea coast or foreign possessions of other nations; and we wished to possess a naval force that should suffice for duties of a purely police or protective character. To-day, however, we find ourselves in close commercial and military touch with the whole world. Porto Rico to the east, Honolulu and the Philippines to the west of us, lie exposed, by virtue of their insular position, to the attack of any future enemy. Should it be our misfortune to be involved in another naval war, our battle-ships and cruisers can no longer elect to lie within easy reach of coaling stations, drydocks or repair yards. They must be prepared to steam far and fast, and arrive at a distant field of conflict with a reserve of fuel in their bunkers, and with a large enough ammunition supply to enable them to fight a successful engagement without having to steam back to some friendly port to replenish coal bunkers and ammunition stores. At the same time it is desirable that our ships, when they meet the enemy, should be able to

steam at a uniform speed, maneuver with equal facility, and present, ship for ship, an overwhelming superiority both for attack and defense.

Fortunately, in our latest battleships and cruisers of the "Connecticut" and "Tennessee" type, we have vessels which amply fulfill these conditions. Ship for ship they are probably more powerful than those of any other fleet. They carry an unusually large supply of ammunition and coal, and their speed, while not so high as that of some of the latest foreign ships, is, we think, ample for carrying out the naval policy outlined above.

When we come then to the question of the immediate needs of the future, we think that Congress cannot do better than authorize a certain number of battleships and cruisers of the exact type of these, our latest designs. To insure this desirable uniformity, or, in other words, to insure that we shall possess at least one homogeneous fleet of battleships and another of cruisers, every vessel in each fleet being identical with the others, it would be well for Congress to follow the admirable German method and authorize an extensive shipbuilding programme to cover a certain number of years. A total number of ships, say a dozen battleships, and eighteen or twenty cruisers, should be authorized at once with the understanding that a certain proportion of these, say two battleships and three cruisers, are to be laid down each year, and the money necessary for that year's construction voted regularly for the purpose.

Only by such a method can we insure, first, that our navy shall grow by regular increments and not by spasmodic effort; and secondly, that the ships as they are completed, shall form homogeneous fleets with the material advantages which are to be secured by such homogeneity.

Scientific American. 88: 95. February 7, 1903.

The Needed Increase of Our Navy. Carlos de Zafra.

To the Editor of the Scientific American:

In connection with the "new ships for the navy," and the necessity for "an elaborate programme of construction," in your issue of the 17th instant, Senator Joy's bill providing for the construction of twenty-five battleships, Senator Hale's opposition to the construction of modern high-powered battleships, and the recent organization of a Navy League in the United States, are all subjects of considerable importance to the nation, as well as of considerable interest to naval folks and citizens in general.

The necessity for a program of construction, although more keenly felt now than ever before, brings to mind the fate of one that was drafted in 1881 by a special board appointed by Secretary of the Navy William H. Hunt. This board, with Rear-Admiral John Rodgers presiding, "advised the construction of twenty-one armored battleships, seventy unarmored cruisers of various kinds, five rams, five torpedo gun-boats, and twenty torpedo boats, all to be built of steel." This program was thought to be necessary as a nucleus for a modern navy at a time when neither the Philippines, Hawaiian Islands, Porto Rico, nor any other outlying possessions existed to divert our attention during war times. If such a programme were deemed necessary twenty years ago, what must be the increased necessity of to-day, with our advent into international politics, and consequent dealings with powers whose naval forces have become our superiors?

It has taken nearly twenty years to build up the United States navy to the strength advised by the Rodgers board; in other words, we are twenty years behindhand; but what else is to be expected with the present method of obtaining favorable naval legislation? At one time construction was delayed one year by the chicane policy of Congress in ap-

propriating three of the heaviest fighting vessels, yet at the same time placing a clause in the appropriation to the effect that no contract for construction should be made until that for the armor had been previously made, the price for the latter being also fixed at a figure considerably lower than it was possible to obtain it. Other delays have been due to the failure of Congress to make any appropriation, on the ground that our shipyards were taxed to their utmost with government and private work already on hand; yet while we have been waiting for our shipyards to clear their ways, no less than six vessels of war, from protected cruisers to battleships, have been or are being built for Japan, Russia, and Turkey. Thus we fail to see the validity of such excuses.

With this and other opposition in mind, the introduction of a bill by Senator Joy of Missouri, providing for the construction of twenty-five battleships seems a bold step, and its outcome is of extreme importance for several reasons. If the construction therein provided for is to be completed within five years, our navy would at the end of that time be up to the strength of what it ought to be to-day. We should be in possession of about forty-five battleships; but in the meantime Germany, who only a few years ago had a very low position in the rank of naval powers and is now rapidly overtaking us, will also possess at least an equal number of battleships, as provided in a naval program adopted by her some years ago; so that, bold as Senator Joy's bill may appear at first, but slight thought will convince one that after all its provisions are, if anything, modest and that thirty battleships would be none too many. The inadequacy of former appropriations since the beginning of the new navy is also forcibly shown. And furthermore, whether Senator Joy's bill provides for one or fifty battleships, no material benefit would result until at least three, and possibly five, years after its passage—the time required for construction; and in the meantime nations could be created or exterminated, so that the passage of such a bill, provided it also includes an immediate increase

